

1936 EDITION

THE
Gold Bond
HANDBOOK

ON RELATED PRODUCTS
FOR WALLS & CEILINGS

NATIONAL GYPSUM CO.—GENERAL OFFICES, BUFFALO, NEW YORK

THE GOLD BOND HANDBOOK

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For Gold Bond Color Texture Finish, see File Index.

For Monolithic Gypsum Floor and Roof Construction,
see File Index.

THE Gold Bond HANDBOOK

ON RELATED PRODUCTS FOR WALLS AND CEILINGS

Manufactured and sold by National Gypsum Company through 7000 dealers in 37 States east of the Rocky Mountains, offering a complete service in related wall and ceiling products controlled and guaranteed by one company.

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(Prepared by Sweet's Catalog Service)

NATIONAL GYPSUM COMPANY — GENERAL OFFICES, BUFFALO, N. Y.

Location of Plants:
National City, Mich.
Camden, New Jersey

Akron, N. Y.
Niles, Ohio
York, Penn.

Luckey, Ohio
Oranda, Va.
Rotan, Texas

Clarence Center, N. Y.
Fort Dodge, Iowa
Lime City, Texas

SEVEN MEN AT A TABLE

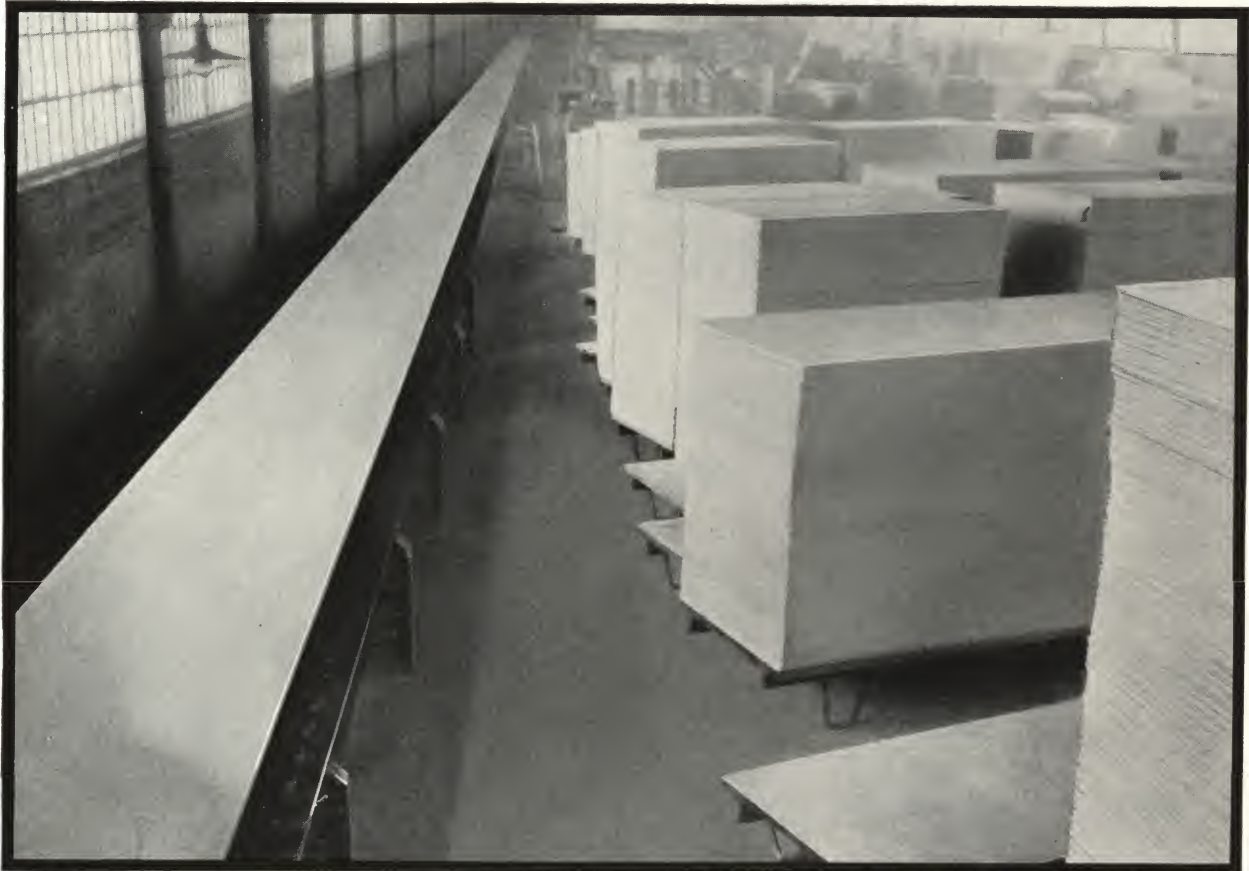
How National Gypsum started from scratch in 1925—changed the standards of an entire industry—added profitable items and enlisted 7000 reputable Gold Bond dealers—and is today one of the potent factors in the wall and ceiling field

THE story of National Gypsum is a success story, pure and simple. It starts back in 1925, with seven men seated around a conference table in Buffalo.

Not one of these men was a millionaire. Their total resources, reckoned in the figures of big business, was a mere nothing. Yet they had what many a failure lacked—first hand knowledge of architect, contractor and dealer

problems through long experience in the building products field.

They also had an idea that better gypsum wallboard could be made than that which was on the market at that time—heavy, brittle stuff, with little or no insulation value. But which even then appealed to dealer and architect as a wall material superior to old-time fibre boards.



One of the Board Operations in the Large Gypsum Mill at Clarence Center, N. Y.

N A T I O N A L G Y P S U M C O M P A N Y

First Light-Weight Board

Every one knows what happened immediately following the introduction of the first Gold Bond wallboard. Lighter by several hundred pounds per thousand square feet, stronger, for the first time giving real insulation value, and sold only through recognized dealers—it was a sensation. During the first few months more than 800 reputable dealers investigated this board and this new company, and then swung over.

Pooh-poohed at first by competition, National continued to add new dealers. Conservatives who waited to see what this new company would "amount to" hesitated no longer, stocked up on the new board, and discovered that for the first time they had a real profit-maker in gypsum wallboard.

In another few months with National sales rolling up volume, competition began to experiment with a similar board. But meanwhile National had not been asleep. Improvement followed improvement. Research laboratories were constantly at work with an eye to the industry's need—the strongest, lightest board available.

The weight was further decreased. Handling was made easier.



Gypsum Mill at National City, Mich.

Now an Even Better Wallboard

In April, 1934, the greatest improvement since the introduction of light weight gypsum wallboard was announced by National Gypsum Company—a $\frac{3}{8}$ -inch board weighing only 1350 pounds to the thousand square feet, 18% lighter than any Gold Bond hitherto made, stronger, with much greater insulation value. Better all the way around, the saving in unloading and handling costs alone amounts to a sizable item on every worthwhile job.



Unloading Raw Material for Insulation at Camden, N. J.

A COMPLETE WALL AND CEILING SERVICE

Gypsum . . . Lime . . . Insulation
Metal Products

Always in the back of the heads of the management of National was a desire to build a complete Gold Bond wall and ceiling service, and thus be in a position to offer the dealer a complete and well rounded out line, backed by the quality reputation and guarantee of a single organization. Today that expectation is

N A T I O N A L G Y P S U M C O M P A N Y

realized, and National's services to the trade fall under four heads, all applying directly to wall and ceiling construction:

Gypsum Plasters, Lath and Wallboard

Since its organization in 1925, Gold Bond has pioneered many important changes for better gypsum products. National's story of quality begins at the mine where the rock is the best to be found and continues through every carefully supervised step of factory operation, to the finished job on the wall. The installation of new machinery and methods, plus strict laboratory standards at the mill, has resulted in improvements in Gold Bond Gypsum Plaster, until today it is one of the most favorably known products of its kind. A perfect team mate for Gold Bond Plaster is Gold Bond Gypsum Lath, made under the same laboratory control as regular Gold Bond Gypsum Wallboard and Gypsum Plaster.

To round out its line of gypsum products completely, National in 1933 absorbed the patents of the Macoustic Engineering Co., long known as the world leaders in the acoustical plaster field. The Macoustic Engineering Division of National Gypsum, and its experienced engineers are available to discuss all acoustical problems regardless of size.



Finish Lime Plant at Luckey, Ohio, Operated Under Laboratory Control

Lime

Second of the four essentials to a complete wall and ceiling service is lime. National's Finish Lime Plant is located at Luckey, in the heart of the rich Ohio dolomite lime field. Here a modern mill is operated, under laboratory control, turning out a finished product that is second to none. . . . Additional lime plants are located at York, Pa., Oranda, Va., and Lime City, Tex., where Mason's Lime, Chemical Lime, Agricultural and Industrial lime are manufactured.

Insulation

Gold Bond Fibre Insulation Board is famous for its superior strength, permanence, weather resistance and toughness. Its superiority to boards made of quick growing material is largely due to the imported licorice root fibre of which it is formed. This four year growth in stony tropical soil, is literally the toughest insulation material known.

Gold Bond Aluminum Foil Insulation Lath and full length wallboard are made by laminating sheets of pure aluminum to one side of regular gypsum lath and board. The reflective insulation resulting, besides being fire-proof, is considered by many the best type available.

Metal Lath

The next step in completing the all-around wall and ceiling service offered by National was the pur-



Section of Lime Quarry, Luckey, Ohio, in the Heart of the Dolomite Field

chase early in 1934 of the complete metal lath plant of Kalman Steel Corp., located at Niles, Ohio. In this plant, with the installation of newest and latest machinery, National is manufacturing a full line of metal lath and reinforcing products, under the same quality supervision that marks the production of every product bearing the Gold Bond name.



Typical Views in the Laboratories at Plants and Main Office

Acquisition of Universal Gypsum and Lime Company in 1935 . . . Another Great Step in Gold Bond's Progress

In September, 1935, came the important announcement that National Gypsum Company had acquired control of, and taken over the management of, Universal Gypsum and Lime Company, with its three gypsum plants and three lime plants.

This gave National a chain of eleven plants, including a gypsum mill in Texas to better serve the Southwest and another in Fort Dodge, Iowa, to accommodate the Middle-Western States. This network of eleven plants, located advantageously from Iowa to the Atlantic Seaboard and from Northern Michigan to Texas, enables Gold Bond to render the utmost in service to dealers in every town and hamlet this side of the Rockies.



The Model Gypsum Plant at Rotan, Texas. Insures Prompt Service to Dealers in the Southwest.



Gold Bond Plant at Niles, Ohio, where Gold Bond Metal Products Are Made

N A T I O N A L G Y P S U M C O M P A N Y

YEARS OF PROGRESS

Since 1925, NATIONAL GYPSUM COMPANY has come all the way from bottom place in the gypsum industry, to top position in the wall and ceiling products field.

The progress that has marked these years can easily be accounted for. It has always been Gold Bond's policy to understand architect, contractor and dealers problems, to meet these problems with quality products salable at a fair profit, and to support its products and dealers with intelligent, forward-looking merchandising plans.

The most significant proof of National's position today can be gained by a study of its financial reports for four depression years, during which the company moved steadily ahead, increasing its representation and service facilities in the field, and added numerous new dealers of the most desirable type.

Gold Bond has come a long way since those seven men gathered around a table to discuss a new kind of gypsum wallboard and a new idea of service to the trade back in 1925. But it has never strayed from the original ideas of fair play and inventive research laid down at that meeting. It never will.



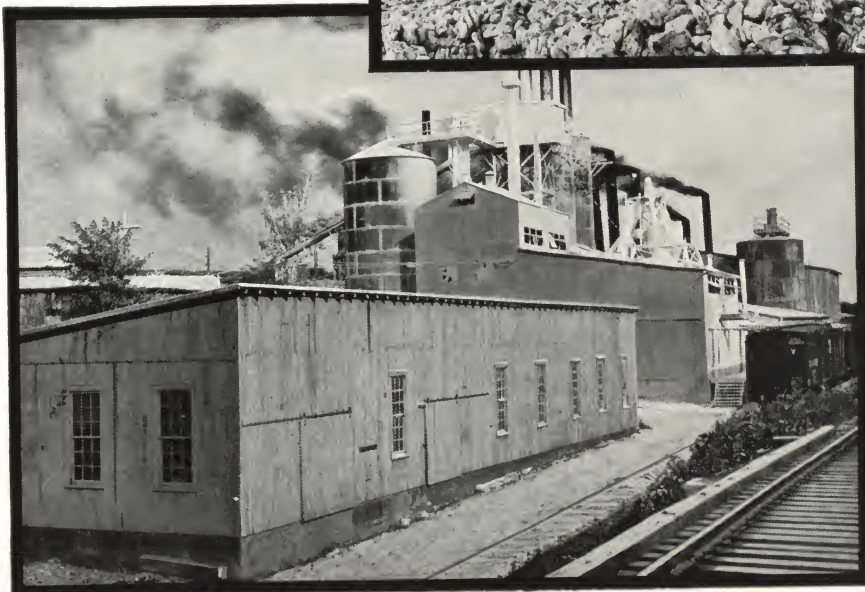
Gypsum Plant at Akron, N. Y.

Gold Bond is fortunate in having two mines and two plants in the heart of Western New York's rich gypsum deposit (Akron and Clarence Center, N. Y.)

Below:

Lime Plant at York, Pa.

One of the most modern and complete lime plants in the country. Gas-fired kilns, designed and installed in this plant by world-famous engineers, produce a more uniformly burned product, so vitally important in the manufacture of lime.



At Left:

Oranda, Va., Lime Plant

Limestone from the mines at Oranda, Va. and York, Pa., is noted for its purity and high calcium content.

At both of these plants, is manufactured Mason's Lime and a full line of Agricultural and Industrial Lime, the latter product being used in the manufacture of paper, bricks, glass, chemical and steel products, for water softening, and for dozens of other industrial uses.



Section 1

**GOLD BOND
PLASTER BASES**

Pages 10-11

GOLD BOND GYPSUM LATH

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GOLD BOND INSULATION LATH

Pages 14-16

GOLD BOND METAL LATH AND ACCESSORIES

Page 17

GOLD BOND PARTITION TILE AND ROOF TILE

Pages 18-19

"CLIP-ON" SYSTEMS

See catalogue on Insulation for
GOLD BOND INSULATION BOARD

GOLD BOND PATENTED GYPSUM LATH

Exclusive Patents give Gold Bond Gypsum Lath many distinct advantages in addition to lighter handling weight

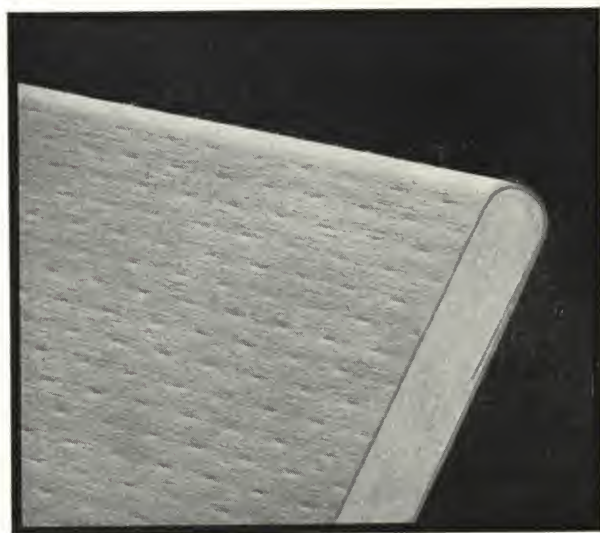
MADE under the same exclusive patents as Gold Bond Gypsum Wallboard, Gold Bond Gypsum Lath has all the advantages of extra light handling weight, superior strength, and easy nailing qualities that distinguish this brand of gypsum board.

Superior Bond to Plaster

The bond of plaster to Gold Bond Gypsum Lath is not dependent on mechanical keys but is obtained by the felting action of billions of gypsum crystals in the set plaster embedding themselves onto the surface of the Gold Bond Gypsum Lath during the setting action. Authoritative tests have shown this bond to be four times as great as any mechanical bond such as that obtained on wood lath, metal lath, etc.

Insulating—Easy Nailing

The extra insulation value offered by Gold Bond Gypsum Lath is accounted for by the patented process which results in the core being filled with millions of uniformly tiny air bubbles. These little dead air pockets make effective insulation, at the same time detracting in no way from the superior strength of the product. Their presence also helps account for the fact that



The Distinctive Indented Surface of Gold Bond Gypsum Lath
(16-in. widths only, have indented surface)



Gold Bond Gypsum Lath Saves Time and Labor in Handling and in Application. Comes in Handy Bundles

there is little likelihood of Gold Bond Lath splintering or cracking at the edges when nailed.

Fireproof Qualities

Because it is solid gypsum rock, Gold Bond Gypsum Lath is highly fire resistant. In repeated blow-torch tests, the material has shown its ability to resist fire. It is non-inflammable and non-combustible. When covered with $\frac{1}{2}$ in. of plaster, it makes a wall $\frac{7}{8}$ in. thick—solid gypsum rock.

A Brace to Framing

The strength and rigidity imparted to a wall by a section of Gold Bond Gypsum Lath adds considerably to the structural strength of the building as a whole. Also there is less likelihood of plaster cracking.

No Waste—No Buckling

A noticeable saving is made when Gold Bond Gypsum Lath is used because of the fact that no plaster is lost going into keys or dropping. All the plaster applied goes directly onto the surface. Gypsum Lath is an extremely rigid plaster base with gypsum rock its main constituent. It is therefore free from swelling or buckling, inherent in fibrous plaster bases and is absolutely unaffected by application of wet plaster. Gypsum Lath walls are always true, regardless of the most adverse moisture conditions.

Cost and Time Saving

Gold Bond Gypsum Lath costs are extremely moderate . . . only slightly more than inflammable wood lath. The main difference is not in price but in the better appearance, and permanence of the finished job. Application of gypsum lath in sheets is, of course, less costly than nailing up wooden lath strips. Also there is a great saving in plasterer's time, as the slightly indented surface of Gold Bond Gypsum Lath allows plaster to be spread evenly and fast, with no wasted time or material going into making keys.



It is a Good Sound Wall for a Workman to be Proud of. Fireproof, too. Patented Indented Surface Aids Application of Plaster

Gold Bond Gypsum Lath Advantages

1. **Ideal Plaster Base**
Provides a greater bond for gypsum plaster than any other type of lath.
2. **Low in Cost**
Costs but little more than wood lath and plaster but gives better job—more rigid and more fire-resisting.
3. **Braces the Framing**
The strength and rigidity of large sheets braces the structural framing.
4. **Saves Time on the Job**
Saves time in application and plaster dries more quickly and evenly.
5. **Fireproof Qualities**
It does not burn or readily transmit heat.
6. **Sound Insulating Qualities**
Very effective in elimination of sound transmission.
7. **Does Not Expand, Contract, Swell or Buckle**
Non-warping. No cracks due to buckling of lath.
8. **No Waste of Plaster**
Does not require keys, so saves on plaster from keys and droppings.
9. **Light and Easily Handled**
Light in weight, easily handled and no rough edges or splinters.
10. **Allows Uniform Plaster Thickness**
With no buckling, the plaster is applied in even thickness.
Specifications: See Master Specifications, page 32.

Detail Characteristics of Gold Bond Lath

General Characteristics—Size, Weight, etc.

Gold Bond Gypsum Lath is $\frac{3}{8}$ in. thick (also made in $\frac{1}{4}$ in. and $\frac{1}{2}$ in. thicknesses), consisting of a cellular gypsum core encased in a special fibre sheet covering front, back and long edges. Edges are rounded, smooth and assure easy handling.

Sizes of Sheets, Weight and Packing

The sheets are made in two standard sizes:

16x32x $\frac{3}{8}$ in. Packed 6 to a bdl., 21 $\frac{1}{2}$ sq. ft. Wt. about 40 lbs.

16x48x $\frac{3}{8}$ in. Packed 6 to a bundle, 32 sq. ft. Wt. about 60 lbs.

Also made in 24x32 in., 32x36 in., and other special sizes, and in $\frac{1}{4}$ and $\frac{1}{2}$ in. thicknesses. . . . Lath with indented surface supplied only in the standard width of 16 inches.

Gold Bond Identification

Each sheet is stamped on the back with the Gold Bond Trade Mark and this side is turned against the studs when applied. The slightly indented pattern on both sides as shown in the illustration is also a distinctive identification even after application. While the indentation is slight, it has been proved by tests that it aids in preventing slipping of the plaster when being applied.

Application and Saving of Time

There is an actual saving in labor time in the application of Gold Bond Gypsum Lath as against wood lath. A lather can average 125 to 150 sq. yds. of gypsum lath a day, while 100 to 115 sq. yds. is an average for wood lath. Because of the uniform size sheets it is easy to cut and fit around openings, etc. When scored with a sharp edge, it breaks cleanly over a straight edge. Joints of the lath must be staggered when applying. Gypsum lath must not be wetted before or after application.

Only Gypsum plaster should be used on gypsum lath. It is easier for the plasterer to apply the plaster as he does not have to form keys and his plaster goes farther and quicker. There is also about a 20% saving in the amount of plaster required.

As the plaster is of uniform thickness without extra depth of keys, it dries out faster and more evenly. This means the job is finished and the wall or ceiling ready for trim or finish in a shorter time.

Preventing Shrinkage from Wet Plaster

The prevention of shrinkage in the wood frame is aided by the use of gypsum lath. The lath does not absorb moisture from the plaster, so keeps it away from the inside of the partition and studs. It also keeps the wet plaster from actual contact with the wood framing. As the lath itself does not expand or contract and acts as actual bracing, the possibility of cracking is reduced to a minimum.

GOLD BOND INSULATION LATH

There are two types of Gold Bond Insulation Lath:

No. 1—Gold Bond Aluminum Foil Lath which presents the newest and most effective principle—reflective insulation—in combination with rigid fireproof gypsum lath.

No. 2—Gold Bond Fibre Insulation Lath made full $\frac{1}{2}$ -in. thick of the tough fibres of the licorice root plant.

A complete description of both types of lath is given in the section on Gold Bond Insulation.

GOLD BOND REINFORCED JOINT GYPSUM LATHING SYSTEM

A Lathing System which we believe provides the
most satisfactory lathing base

IN general the system consists of the use of Gold Bond Gypsum Lath, the reinforcing of all joints of the lath, all internal angles of walls and ceilings and around door and window openings with metal reinforcing. All external angles should be protected with corner beads.

Three Coat Plaster Job Required

With Gold Bond Reinforced Joint Lathing System it is necessary to use a three coat plastering job to adequately cover the metal reinforcing strips. This assures a full $\frac{1}{2}$ -in. thickness of plaster being applied, resulting in a strong, thick wall over all. It precludes the possibility of skim coating the job or applying plaster too thin for best results.

The Ideal Plaster Base System

We believe this system to be the ideal lathing system considered from all standpoints of construction. It offers the special

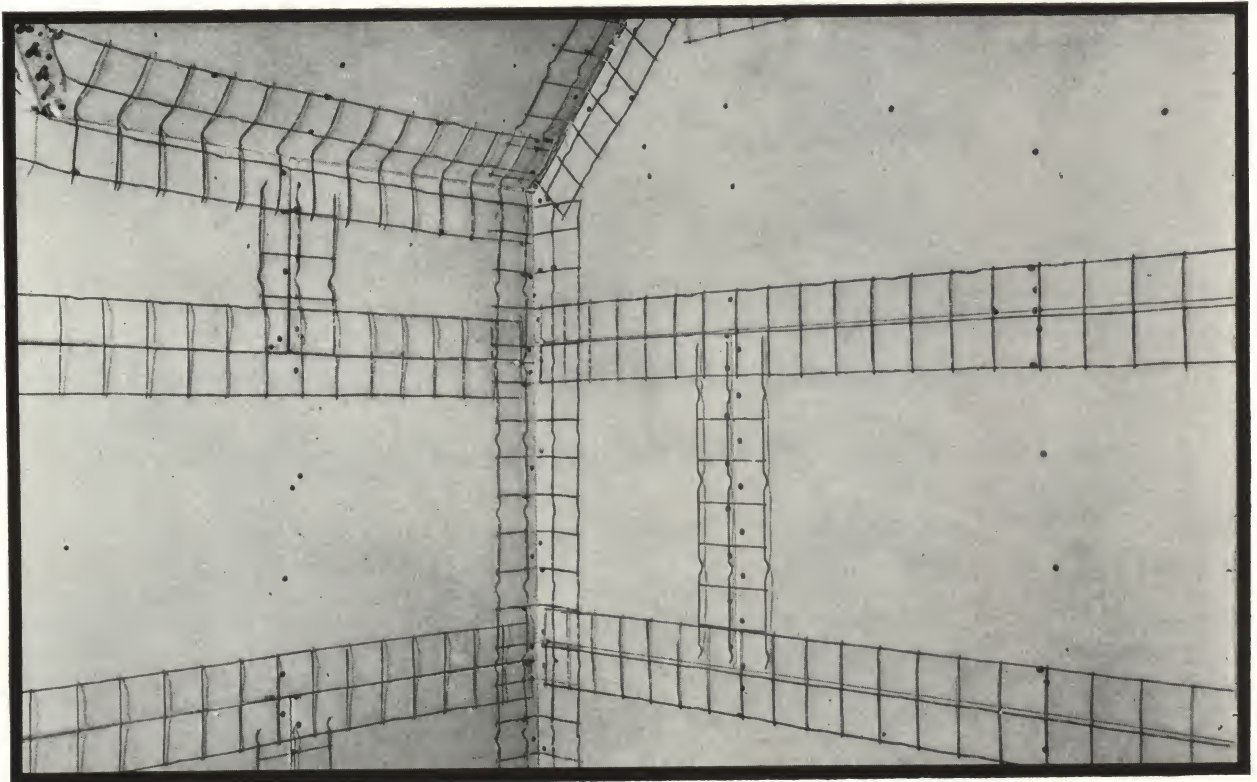
advantages of gypsum lath and in addition safeguards against the possibility of any cracks developing at the joints in the lath except under serious settling of the building. While it costs slightly more than using plain gypsum lath its use is justified where the best workmanship is desired.

The Reinforced Joint

The reinforcing of the joint is accomplished by the use of a metal reinforcing mesh nailed over all joints. This becomes embedded in the plaster as it is applied. The reinforcing used in this manner produces a real reinforced plaster slab which is $\frac{7}{8}$ in. thick. The actual strength developed at the joint amounts to five times that of an unreinforced joint!

One Hour Fire Test

The lathing system, plastered with three coats of plaster $\frac{7}{8}$ in. grounds will withstand the Standard One Hour Fire Test as specified by the American Society for Testing Materials.



Interior Showing the Reinforced Joints Ready for Plastering

N A T I O N A L G Y P S U M C O M P A N Y

STANDARD SPECIFICATIONS

FOR GOLD BOND REINFORCED JOINT LATHING SYSTEM

1. Scope of Work

The Gold Bond Reinforced Joint Lathing System shall be used in the following locations. (List where the system is to be used.)

2. Checking of Framing

Lather shall examine all framing for accuracy and proper nailings before applying lath. All electric outlets shall be properly located and set and all openings shall be framed. Any defective work shall be reported to the architect before lathing is started.

3. Materials

3-1. All materials shall be supplied by the National Gypsum Company and shall be delivered to the job in their original packages.

3-2. **Lath**—Gold Bond Gypsum Lath ($\frac{3}{8}$ x 16 x 48 in.).

3-3. **Joint Reinforcing**—Reinforcing Mesh 4 x 48 in. for lath and diagonal reinforcing and 6 x 48 in. for internal angles.

3-4. **Metal Corner Beads**—Gold Bond Galvanized Metal Corner Bead.

3-5. **Metal Lath**—Gold Bond Expanded Metal Lath, (weight), (Painted), (Galvanized), (Copper Bearing), (Armco Ingot Iron).

3-6. **Nails**—For Application of Gold Bond Gypsum Lath shall be standard lathing blued nails ($1\frac{1}{8}$ in. x 13 gauge— $\frac{5}{16}$ heads).

3-7. For application of Gold Bond Reinforcing, special nail supplied with the reinforcing shall be used.

4. Application of Gold Bond Lathing System for Wood Framing

4-1. All walls, ceilings and partitions, as specified, shall be covered with Gold Bond Gypsum Lath.

4-2. Lath shall be applied with trade marks facing the stud joists or furring, taking care to break joints. Vertical joints shall not occur opposite each other on the same stud. Lath shall be neatly fitted tightly at all angles.

4-3. All lath shall be cut first by scoring lath with hatchet or knife and then break over straight edge.

4-4. All lath (16 x 48 in.) shall be nailed to bearings with 10 standard lathing nails—using three (3) nails along each 16-in. edge and one (1) nail at each bearing on long side. Nails shall be kept back at least $\frac{3}{8}$ in. but not more than $\frac{3}{4}$ in. from edges of boards. Nails shall be driven home without breaking surface of lath. No nails shall be used beyond edges of lath except when lath is applied to curved surfaces.

4-5. Any openings for outlet boxes, etc., shall be cut clean and neatly fitted to proper sizes and locations.

5. Reinforcing Joints

5-1. Gold Bond Joint Reinforcing shall then be applied over all vertical and horizontal joints of lath. Horizontal joints shall be covered first, using 48 in. strips, then cover end and short joints with reinforcing strips 12 in. long. Reinforcing shall be securely nailed centered over each joint.

5-2. All internal angles of walls and ceilings shall have Gold Bond Angle Reinforcing with 3 in. leg, applied before applying the reinforcing over lath joints. Reinforcing shall butt but not over-lap and shall be applied with crimp against face of lath.

5-3. All openings for doors, windows, arches, etc., shall be reinforced at corners by diagonal reinforcing 12 in. long.

5-4. All reinforcing shall be securely nailed by special nails, supplied with reinforcing, every 12 in. and staggered along both edges of lath.

5-5. All external angles shall be reinforced full length or height with (specify no.) Gold Bond Corner Bead securely nailed over the edge of gypsum lath.

6. Plastering

6-1. Plastering shall be three-coat work of gypsum plaster (specify plaster, finish, etc.).



Gold Bond Reinforcing Joint Showing How Steel Is Automatically Embedded in the Plaster



Gold Bond Metal Lath is easily and quickly applied. Partitions made with it are rated by the National Board of Fire Underwriters as second only to reinforced concrete

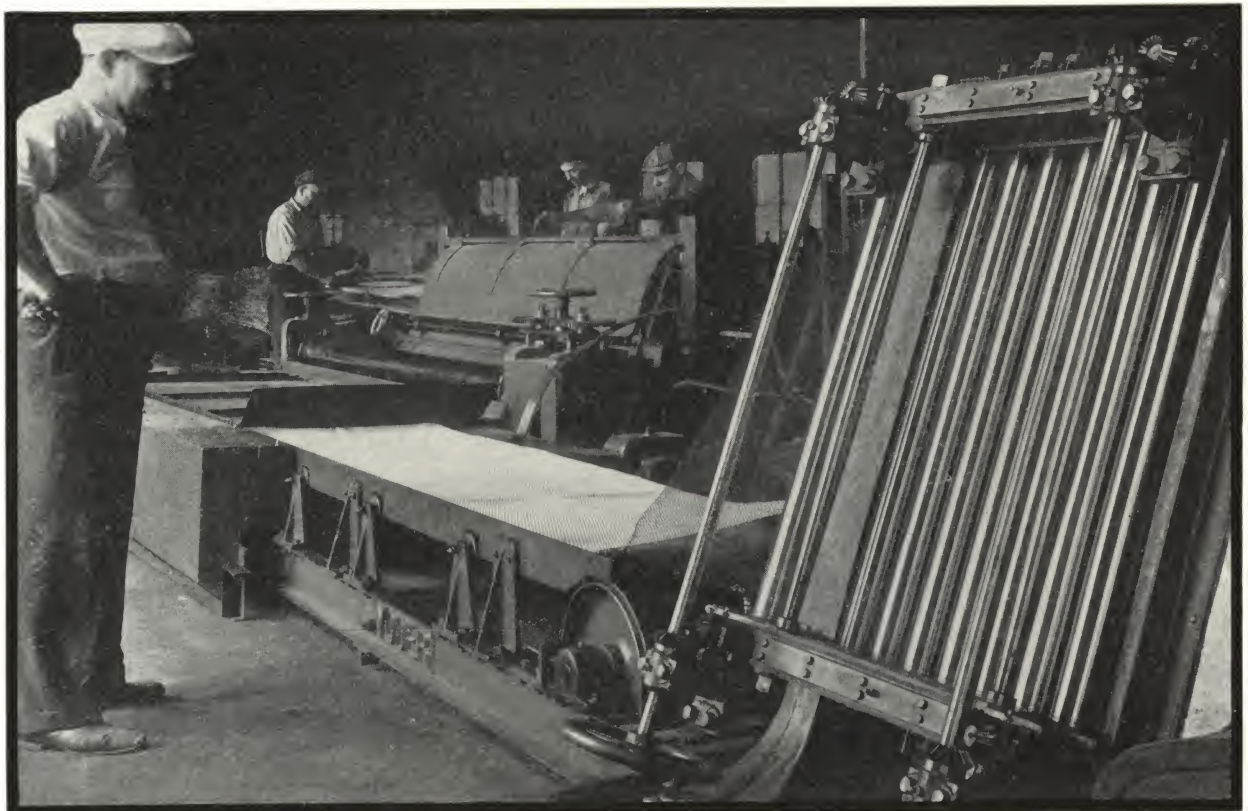
GOLD BOND METAL LATH AND ACCESSORIES

Most Gold Bond Metal Lath Products are made from steel sheets manufactured by the open hearth process

THE National Board of Fire Underwriters gives Metal Lath with gypsum plaster on wood studs a one hour fire rating. This means should a fire start in one room it will take one hour before it reaches the room adjoining.

The Board of Fire Underwriters also rates Metal Lath partitions second only to reinforced concrete—and above all others in resistance to earthquake and explosion shocks.

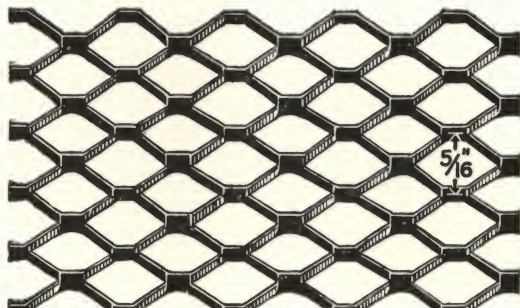
Space permits in this catalog only the inclusion of the most used items in the Gold Bond Metal Lath and accessory line. Others on which complete information can be obtained by writing Metal Lath Division, National Gypsum Company, Buffalo, N. Y., include: Corner beads—5-in. wing expansion, scalloped, bull nose expansion and wide flange. Base beads—standard, expansion flush and curved point. Also available and of best quality, corner bead clips, Gold Bond Stripite (a diamond mesh lath cut into strips), galvanized tie wire and special Gold Bond Corrugated Wall Ties, used to bond wood sheathing and brick veneer and other masonry surfaces.



Newest Type of Metal Lath Machine—in Use at Niles, Ohio, Plant

N A T I O N A L G Y P S U M C O M P A N Y

GOLD BOND METAL LATH PRODUCTS



Gold Bond Small Diamond Mesh Lath

Can be used on any type of metal lath job. It constitutes better than 50% of all the metal lath sold.

Gold Bond Small Mesh boasts of having as small a mesh as any diamond mesh manufactured; containing approximately 3000 more keys per square yard than the regular $\frac{3}{8}$ in. mesh. Our sheets lay perfectly flat and each sheet has re-squared ends assuring full covering width. Regular $\frac{3}{8}$ in. mesh can be furnished upon request. Is made from open hearth box annealed sheets.

Standard Weights—2.2, 2.5, 3.0, 3.4 lb. Furnished in painted steel, copper bearing and Armco Iron. Galvanized in 2.5 and 3.4 lb. only.

Sheet Sizes

- 24 in. x 96 in. 9 sheets per bundle or 16 sq. yds.
- 27 in. x 96 in. 10 sheets per bundle or 20 sq. yds.



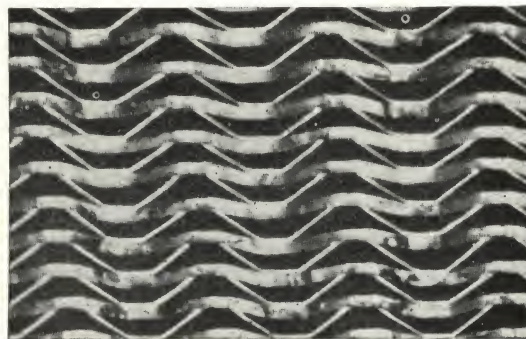
Gold Bond $\frac{1}{8}$ -in. Flat Rib Lath

Was primarily designed for a growing demand by the trade for a more rigid expanded metal lath and a more economical plastering job. Its ribs are shaped in the form of a "Z"; this together with its herringbone design makes it exceptionally rigid. It is easy to erect and nail and does not buckle or sag.

Gold Bond Flat Rib saves approximately 25% of plaster over the $\frac{3}{8}$ in. Diamond Mesh Lath. Its biggest use is for walls and ceiling in the better class of residential, apartment house and hotel construction. Made from open hearth box annealed sheets.

Standard Weights—2.75, 3.0 and 3.4 lb. Furnished in painted steel and copper bearing steel. Galvanized in the 3.4 lb. weight only.

Sheet Size—24 in. x 96 in. 9 sheets per bundle or 16 sq. yds.

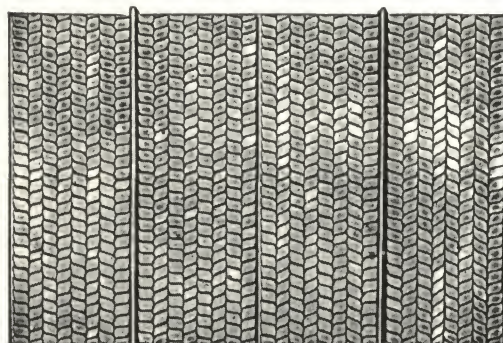


Gold Bond Cup Lath

Is the ideal stucco base. It is an exclusive Gold Bond Product. The meshes are $\frac{3}{8}$ in. wide. Its most unique feature is that each mesh is corrugated $\frac{1}{4}$ in. deep running in a continuous straight line through the length of the sheet as well as across the full width of the sheet. This exclusive cup feature assures a proper thickness of the plaster or stucco and provides for the most uniformly efficient key possible reinforcing the plaster in all directions. Made from open hearth box annealed sheets.

Standard Weights—2.5, 3.0, and 3.4 lb. Can be furnished in painted steel, copper bearing and Armco Iron. Galvanized in 2.5 and 3.4 lb. only.

Sheet Size—18 in. x 96 in. 15 sheets per bundle or 20 sq. yds.



Gold Bond $\frac{3}{8}$ -in. Rib Lath

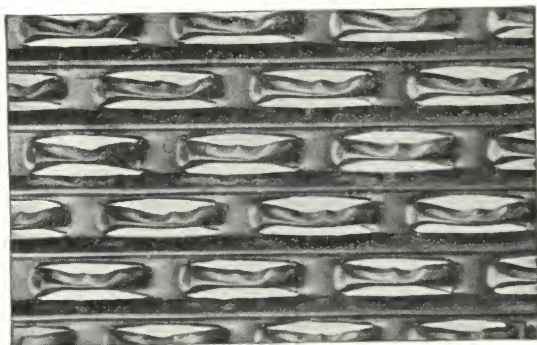
Is generally used for ceiling and for concrete reinforcing in floors in connection with steel joists, junior beams, etc.

Gold Bond $\frac{3}{8}$ in. Rib is outstanding for its rigidity. Ribs are 4 in. on center. Sheets nest perfectly when lapping which results in a smooth surface for plastering, thereby eliminating bulges and creating a saving in plaster waste. Manufactured from open hearth box annealed sheets.

Standard Weights—2.5, 3.0, 3.4 and 4.0 lb. Furnished in painted copper bearing steel and Armco Iron. Galvanized in 3.4 lb. only.

Sheet Size—24 in. x 96 in. 9 sheets per bundle or 16 sq. yds.

GOLD BOND METAL LATH PRODUCTS

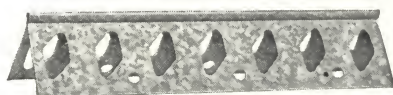


Gold Bond Sheet Lath

Is used generally for tile backing due to its being the most rigid lath manufactured. It requires considerably less plaster than any other type of metal lath and therefore, is often used on residences and large apartment buildings. The trough formation of the ribs creates a suction and makes it the ideal lath for overhead work on ceilings. Gold Bond Sheet Lath is of our own exclusive design. Manufactured from open hearth annealed sheets.

Standard Weights—4.5 lb. in painted and 5.5 lb. in galvanized.

Sheet Size—24 in. x 96 in. 9 sheets per bundle or 16 sq. yds.



Gold Bond Standard Corner Bead

Can be used on any type of construction. It provides an absolute straight corner and is easily erected. Every bead must be straight and true before it leaves our plant.

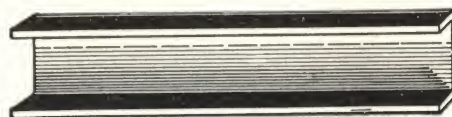
Stock Lengths—6, 7, 8, 9, 10 and 12 ft. Made in 26 gauge. 24 gauge on special order. Packed 10 pieces per bundle. Weighs 200 lbs. per 1000 lin. ft.



Gold Bond Standard Expansion Corner Beads

Can be used in all types of construction. Forms an exceptionally fine key due to the reinforcing given by the 2 1/2 in. wings. Is easily erected.

Stock Lengths—6, 7, 8, 9, 10 and 12 ft. Made in 26 gauge. 24 gauge on special order. Shipped in crates of approximately 500 or 1000 feet only. Weigh 208 lbs. per 1000 lin. ft.



Gold Bond Cold Rolled Channels

Are used generally for suspended ceiling work and 2 in. solid partitions. They are formed cold from the best quality strip steel. Gold Bond Channels are absolutely straight and are especially adaptable to form work because of their bending qualities and rigidity.

Type	Stock Lengths, Feet	Pcs per Bundle	Weight per 1000 lin. ft. lbs.
Pencil	12, 14	20	113
Box	16, 18, 20	20	276
3/4 in.	16, 18, 20	20	276
1 in.	16, 18, 20	20	332
1 1/2 in.	16, 18, 20	10	442
2 in.	16, 18, 20	10	553

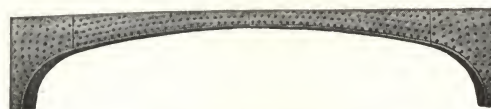
Furnished unpainted unless otherwise specified. Pencil Channel always furnished in painted stock.



Supplied for 20" and 31 1/2" openings. Two pieces to set.



Supplied for 31 1/2" x 49 1/2" openings. Four pieces to set.



Supplied for 61 1/2" and 70 1/2" openings. Four pieces to set.

Gold Bond Metal Arches

Are made from galvanized sheet steel. A perfect arch for approximately half the cost of curved wood forms to which must be fitted corner bead and metal lath. They are easy to erect and are ideal for residences and apartment houses. Gold Bond Metal Arches are made in true circle, gothic and elliptic designs.

They are standard for 2 x 4 studs or bucks. The studs or bucks are to be spaced 1 1/2 in. wider than the desired finished opening.

This allowance is for the thickness of the lath and plaster ground. Can be jointed with standard corner bead by using the shank of a No. 7 box nail.

GOLD BOND GYPSUM PARTITION TILE AND SHORT SPAN REINFORCED GYPSUM ROOF TILE

True, uniform, machine moulded tiles that are fireproof,
insulative, lightweight and easily handled

PARTITION TILE

GOLD Bond Gypsum Partition Tile is a lightweight, sturdy product, used for the finest type of fireproof partitions.

Supplied in all standard thicknesses that permit economical erection with a minimum of waste. It is recognized as the standard material for interior, non-bearing partitions, column covering, and wall furring. Is particularly adapted to cutting or sawing and chasing for conduits, switch boxes and pipe lines.

Gold Bond Partition Tile is made under the most modern methods with the latest type of machinery, in standard uniform sizes 12 in. x 30 in., thickness 2 in. solid and 3, 4, 5 and 6 in. hollow. 1½ in. and 2 in. hollow furring tile should be made on the job by ripping 3 in. and 4 in. hollow tile through the center, as this method effects a distinct saving.



One of the Partition Tile Machines at the Fort Dodge Plant

ROOF TILE

Short span gypsum roof tile construction is by far the most flexible of any precast system. Gold Bond Roof Tile is accurately machine moulded and reinforced with electrical welded galvanized steel fabric. May be used on any type of factory or industrial building, power plants, schools and is particularly adapted to special pitched roofs that are cut up with hips, valleys or dormers.

Gold Bond Short Span Roof Tile requires sub-purlin supports. These are usually standard T sections but lightweight I-beams or channel sections may be used with economy up to 12 ft. They are made 3 in. solid, 12 in. wide and 30 in. long, extra dense and reinforced with electrically welded galvanized steel fabric placed near the bottom. The most economical span for standard 3 and 3¼ in. T's is from 6 ft. 7 in. to 7 ft. 4 in.

The tile is laid directly on steel supports without mortar and with the sides tight together, having full bearing on the sub-purlins. The grouting grooves are then filled with gypsum mortar and the roof is then ready for covering.

On sloping roofs, if channels are used for main purlins, they should open upwards in order to permit proper clipping of the sub-purlins.

Tie-rods are recommended for use on all roofs, using channel purlins regardless of slope or pitch.

Curb tile is used under sash, skylight frames, etc., and are made 3 in. x 15 in. x 30 in. The steel work should be laid out to accommodate a full or one-half 30-in. dimension.

Gold Bond Short Span Reinforced Roof Tile weighs approximately 17 lbs. per square foot. Is made of extra dense gypsum and because of the method of reinforcing is easily cut to fit job conditions.

The 3-in. solid roof tile has a high heat insulation value according to tests by recognized authorities of .41 B.t.u.'s per square foot per degree difference in temperature per hour. This excellent insulating property prevents the usual condensation which occurs on the under side of non-insulative constructions.

TABLE OF SIZES AND WEIGHTS

Size of Gold Bond Gypsum Partition Tile	For Ceiling Heights Up to	Weight of Tile Lbs. per sq. ft.	Weight of Mortar Lbs. per sq. ft.	Weight of Plaster (one side) Lbs. per sq. ft.	Total Weight Tile, Mortar and Plaster (two sides) Lbs. per sq. ft.
2" Solid12" x 30"	10 ft.	10.0	1.00	3	17.00
3" Hollow12" x 30"	13 ft.	10.0	1.20	3	17.20
4" Hollow12" x 30"	17 ft.	14.0	1.63	3	21.63
5" Hollow12" x 30"	20 ft.	17.2	2.04	3	25.24
6" Hollow12" x 30"	30 ft.	20.0	2.45	3	28.45

"CLIP-ON" SYSTEMS

Tested and satisfactorily proven Gypsum Lath Systems of construction for ceilings, furred walls and partitions

THE "Clip-On" Systems consist of complete assemblies of standard channels, patented "Clip" supports for special Gypsum Lath, and the application of Gypsum Plaster to completely finish any ceiling, furred wall or partition.

Solves Many Problems

Until the invention of "Clip-On" assembly in 1918, when providing for a suitable ceiling, furred wall or partition, almost every architect, builder and plasterer was confronted with the problem of selecting the proper type of structural members, determining their size and spacing, providing adequate fastening for the lathing materials and establishing the proper admixture and method of application for the plaster.

The "Clip-On" Systems, from the time of their inception, have provided a successful solution of all these problems. Specifying the "Clip-On" System, for the purpose desired, carries with it the assurance that:

- (1) The metal parts will be of the proper kind, size and spacing to insure strength, rigidity and stiffness.
- (2) The lathing background of gypsum lath will be adequately and firmly secured to the required supports by specially devised clips in such a manner as to provide an unsurpassed base for the plastering.
- (3) The gypsum plaster will be permanently bonded to the fire resisting gypsum lath, presenting a true and unwavering plane throughout.

Simplified Construction

The simplicity of the "Clip-On" Systems can be readily seen from the photographs and descriptions that follow. In ceiling construction a rigid grillage composed of runner and furring channels fastened to hangers suspended from the floor construction above, is prepared quickly, requiring no special designs nor special materials. This is followed with the "Clip-On" Gypsum Lath which is fastened readily to the furring channels with the various types of clips provided for that purpose, as illustrated on the following page. The same conditions apply to furred walls or partitions which, in essence, are ceilings erected in a vertical position.

The "Clip-On" clips are of original design, and will fit any standard structural members used in the construction industry eliminating thereby the inconveniences and additional costs created by the use of special metal studs or supports. They are made of copper alloy galvanized metal, the gauge of the metal being heavy enough to take any load imposed. They are adapted to the erection of all types of partition and ceiling constructions.

"Clip-On" Gypsum Lath is made in units 16 x 48 x $\frac{3}{8}$ in., to facilitate handling. They provide strength, fire resistance and lightness for the entire construction as well as durability through the waterproofing on the upper surface which prevents damage from external influences.



"Clip-On" Gypsum Lath Suspended Ceiling Furred Down from Concrete Floor Construction

Showing arrangement of hangers and extensions, runner and furring channels.

The "Clip-On" Systems are applicable to all types of building construction. Schools and hospitals have given preference to these systems because the perfect adhesion of the plaster to the gypsum lath eliminates all possibilities of falling plaster.

Long experience has proven that direct plaster to the underside of any floor construction does not yield the proper results. The "Clip-On" Gypsum Lath ceiling provides the solution as well as a more economical construction. The ceiling can be dropped to any desired distance below the floor construction and provides a uniform surface of equal density throughout so that "striping" and weakening of the bond cannot occur. This yields a level construction, stiff plastering base, maximum adhesion, straight plastering and a great saving in time. It is also worthwhile noting that there is a very definite saving in the total dead load in the use of metal tile forms and "Clip-On" ceiling as compared with clay tile construction and plastering directly to the tile and concrete. Painting and decorations can also be promptly applied and will not have to be constantly renewed.

"Clip-On" Plastering Materials

It has been definitely proven that one essential in "Clip-On" Systems is that "Clip-On" Bonding Plaster be used in applying the scratch and brown coats to the "Clip-On" Gypsum Lath, since it contains the necessary ingredients which will permit it to be spread on the Gypsum Lath to the specified $\frac{1}{4}$ in. thickness. The Gypsum sets, crystallizes and becomes hard before all the moisture evaporates from the mixture, without affecting its elastic qualities to cope with the changes in temperature or other atmospheric conditions.

The "Clip-On" Bonding Plaster, exclusive of finish coat, is put on the various plaster backings as follows:

(1) **"Clip-On" Lath**—Ceilings, $\frac{1}{4}$ in. thick. Walls and partitions, $\frac{3}{8}$ in. thick.

(2) **Metal Lath**—Front and through the lath, 1 in. thick.

(3) **Makite**—Brick and tile, $\frac{3}{4}$ in. thick.

(4) **Wood Lath**— $\frac{1}{2}$ in. thick exclusive of keys.

(5) **Concrete Surface**— $\frac{1}{8}$ in. for Scratch Coat. Balance of thickness with Brown Coat as required, to leave a level surface.

The quantity of sand added to each mix is governed by the type of plaster backing to be covered—using 180 lbs. of sand to 100 lbs. of "Clip-On" Bonding Plaster for the scratch coat on "Clip-On" Gypsum Lath, metal lath and wood lath. 250 to 300 lbs. of sand to 100 lbs. of "Clip-On" Bonding Plaster for Makite (brick and tile), and the brown coat on "Clip-On" Gypsum Lath, metal lath and wood lath.

In preparing the Scratch Coat, care must be taken that there is not too much sand mixed with the "Clip-On" Gypsum Plaster, since oversanding cuts down its spreading qualities.

The "Clip-On" Bonding Plaster is prepared so that it can be mixed by hand or machine. Should it be required that the material "set" faster, add a few handfuls of Portland cement or finishing lime to each batch, mix thoroughly and the desired results will be secured without endangering the quality of the material.

Note: The "Clip-On" Special Bonding Plaster is designed to meet such needs, that is, when the scratch, brown and finish coats must be applied on the same day. The Special Bonding Plaster is a quick-setting material and when used for Scratch and Brown Coats should be mixed with not more than 180 lbs. of sand to every 100 lbs. of Gypsum in small enough quantities to be used immediately. When used for Bond Coat on a concrete surface use 50 lbs. of sand to 100 lbs. of Special Gypsum. The finish coat can be applied within two hours after browning. *This material is designed for quick service retaining all the advantages of the regular Bonding Plaster which is used in the usual manner.*

Caution: In applying Special Bonding Plaster to a concrete surface make certain that all loose particles, dust, grease, or oil spots are definitely removed. Cover surface thoroughly with Scratch Coat, using 100 lbs. of Special Bonding Plaster to 50 lbs. sand. Follow up with Brown Coat in the usual manner.

The "Clip-On" Lime is made from the highest quality of lime rock obtainable in the Ohio fields.

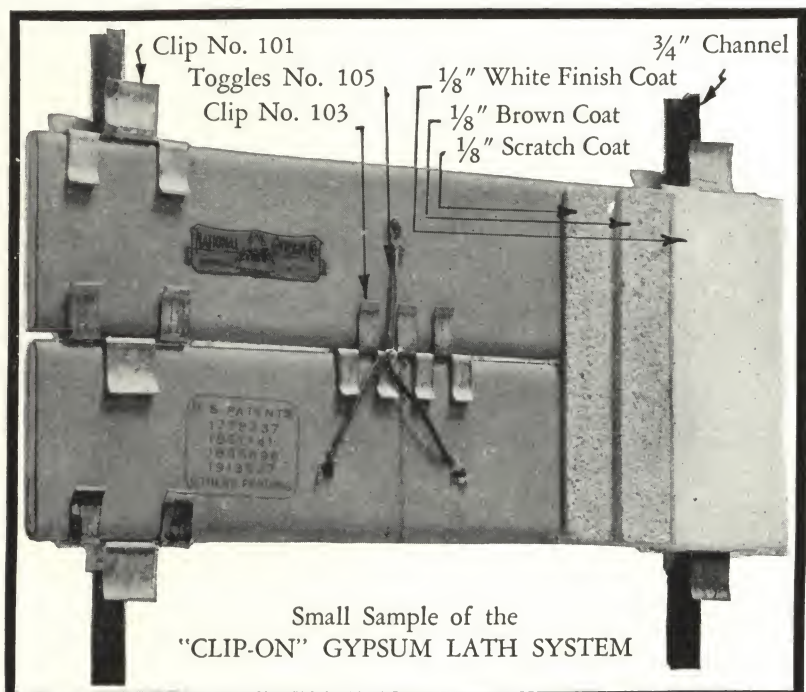
The "Clip-On" Gauging Plaster and "Clip-On" Moulding Plaster are made from the same ingredients and answer the same purposes. The choice of the proper one for white coating, therefore, becomes a matter of the plasterer's preference. The moulding plaster, however, is best suited for cast and shop work.

For the man in the field there has been developed a complete series of large scale drawings which give and describe in detail the successive steps required in the erection of the "Clip-On" Systems. These drawings can be secured on request.

Advantages of "Clip-On" Systems

1—Assures plumb and level surfaces which can be ascertained before plastering is applied. Note particularly horizontal channels for suspended ceilings on 16-in. centers.

- 2—Materially reduces disorder incident to plastering and the amount of water content of unfinished building.
- 3—Reduces time required for completion.
- 4—Reduces quantity of plaster, since the minimum requirement on "Clip-On" Gypsum Lath is $\frac{3}{8}$ in. there is a material reduction in plaster droppings.
- 5—Insures an even thickness of plaster.
- 6—Eliminates rust action as clips are made of copper alloy galvanized metal.
- 7—Excels in elasticity over competitive materials due to the homogeneity of materials.
- 8—Facilitates the erection and inspection of electric and other outlets, including ease of correcting errors.
- 9—Provides an air space or duct space in hollow partitions without extra cost.
- 10—Reduces dead load approximately 45 lbs. per sq. yd. of surface and therefore effects economy in the structural frames. ("Clip-On" Gypsum Lath Suspended Ceiling Construction is estimated at 5 lbs. per sq. ft. as compared to metal lath ceiling at 10 lbs. per sq. ft.)
- 11—Dampproofing of reverse side of Gypsum Lath protects plaster and insures life of surface for a longer period than other competitive materials.
- 12—Effects substantial saving in cost per sq. yd. of ceilings.
- 13—The "Clips" can be applied or adapted to any rigid board and can be used in conjunction with any type of acoustic, insulating, etc., installations.
- 14—There is no risk of falling plaster from ceilings where "Clip-On" is used as the total plaster thickness is only $\frac{1}{8}$ in. and the Gypsum Lath Units are toggled as well as clipped. Each "Clip" carries approximately 9 lbs. as the total of 45 lbs. per sq. yd. is carried by five No. 101 clips supported by $\frac{3}{4}$ in. channels. (Results of tests on the adhesion of gypsum lath made by the "Bureau of Standards of the U. S. Department of Commerce, Washington, D. C." are given in the "Clip-On" Manual. A copy will gladly be sent on request.)



Small Sample of the
"CLIP-ON" GYPSUM LATH SYSTEM

Goid Bond Products Are Manufactured in Modern Equipped Plants And Are Under Constant Supervision From the Time the Raw Materials Are Taken From the Mines Until the Finished Products Are Loaded in the Cars.



The Model Lime Mine at the York, Pa., Plant
This limestone is exceptionally pure and high in calcium oxide content



Loading Methods Approved by the Carrier Insure Contents Reaching Customers in Perfect Condition



Clarence Center Plant Located in the Heart of Western New York's Rich Gypsum Deposit

N A T I O N A L G Y P S U M C O M P A N Y

Section 2

**GOLD BOND
GYPSUM PLASTERS AND
FINISH LIME**

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GOLD BOND FINISHING PLASTERS:

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SPECIFICATIONS FOR LATHING AND
PLASTERING

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GOLD BOND ACOUSTICAL PLASTER

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GOLD BOND COLOR TEXTURE



GOLD BOND . . . A COMPLETE PLASTER SERVICE

How Gold Bond supervises the quality of its plaster every step of the way from mine to finished wall.

GOLD Bond Plaster mines and quarries are located in the richest gypsum sections of the country, the vast deposits insuring approximately a hundred years' supply of exceptionally pure rock.

Purity Assured

Here in these mines and quarries daily tests are made to assure the constant purity of the rock—actual tests proving that the purity of the gypsum has a decided effect upon the strength and hardness of the finished wall. High purity also increases the coverage and smooth working qualities of the finished plaster.

Gold Bond spares no trouble or expense to obtain the purest gypsum rock, and then follows it by laboratory tests through every process of manufacture to the finished job.

Tested for Individual Job

For this purpose—suited the plaster to the individual job—the Gold Bond laboratories are constantly testing specimens of sand from every part of the country where Gold Bond plaster is used. Samples are continually being secured to meet changes in local conditions.

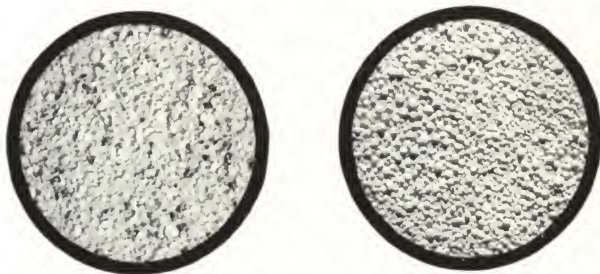
Before shipping, every batch of plaster is tested to meet the requirements of the particular sand of the vicinity into which the plaster is to be shipped. A somewhat costly process from the viewpoint of the manufacturer, but well worth the expense as it assures our customers of getting plaster that is particularly suited to their respective territories regardless of any unusual local conditions. New processes (patent applied for) insure uniformity of performance under all normal job variations and weather conditions.

Introduction of the new Gold Bond Microplastic Plaster in 1935 proves one of the greatest improvements in plaster history . . .

Gold Bond Plasters have long been accepted as "standard" among the leading contractors of the country. Then in 1935, this enviable position was greatly enhanced by the introduction of a brand new plaster—Gold Bond Microplastic Plaster, produced after years of intensive research work.

This improved method of processing has resulted in a product that is practically foolproof as far as application is concerned. Plasticity or workability has been increased 100% with far greater coverage. The new Gold Bond Microplastic Plaster met with instant approval and experts considered this to be the greatest forward step in the development of plaster in many years.

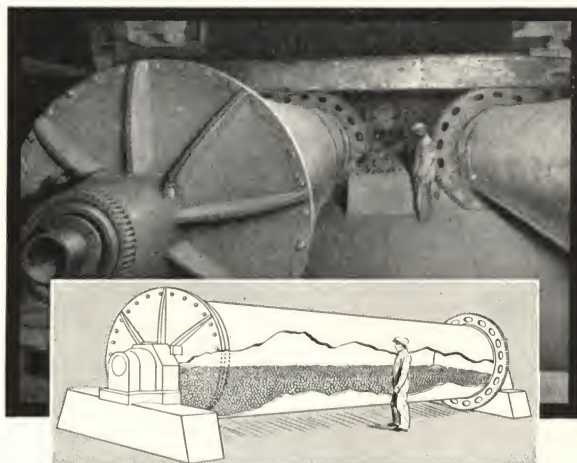
What the Micron-Sizing Process Actually Accomplishes



Before

After

Note the contrast between these microphotos. At the left the plaster is coarse and flinty, while at the right the plaster after the Micron-Sizing Process has been broken down into millions of tiny particles and then rolled into soft, felted balls.



New Equipment and New Processes Enable Gold Bond to Offer a New High Quality in Plaster

Two of the huge mills which regrind the gypsum particles into micron sizes.

Bottom: An X-ray drawing of interior of mill showing the 100,000 manganese steel balls which do the pulverizing.

Scientific Principle of Micron Sizes and Their Effect on Plasticity

It is a well established scientific principle that in the setting of plaster a gelatinous plastic film is produced on the surface of the particles of calcined gypsum. Gold Bond, as one step in manufacture, regrinds the particles to micron sizes (1/25,000 inch). The enormous increase in area resulting greatly multiplies the bulky gelatinous smooth working qualities.

GENERAL DATA

Characteristics and Application of Gold Bond Gypsum Plasters

The high grade gypsum rock used in the manufacture of all Gold Bond Plasters is hydrated calcium sulphate, containing approximately 20% of chemically combined water. In the calcination process most of this water is driven off, producing "plaster of Paris" which is the base of all gypsum plasters. On remixing with water on the job, the material takes back the water driven off in calcination and crystallizes or sets to the original gypsum rock.

In making Gold Bond Gypsum Plasters, small amounts of other materials are added to the basic "plaster of Paris" to control the time of set, working qualities, type of use, and particular market conditions of territory to which it is shipped.

May Be Used on All Plastering Bases

One of the many advantages of gypsum plaster is that it may be used on all types of plastering bases in addition to masonry surfaces. It may be used on gypsum, wood or metal lath; clay, concrete or gypsum tile or blocks; brick, concrete or other standard masonry plastering surface.

Dries Quickly

The advantages of the quick set and rapid drying qualities of gypsum plaster are very important in the completion of a

building as well as reducing overhead. The usual time for a hard set is from 2 to 6 hours and complete drying in about 36 hours depending on weather and the season of the year. After drying there is no further sweating or dampness.

Adhesion Qualities

The particularly strong adhesive quality of gypsum plaster has been practically demonstrated in tests at the U. S. Bureau of Standards. It was conclusively shown that it does not depend entirely on mechanical keys but bonds on actual suction or adhesive qualities.

Durability

Gypsum plaster forms a hard, tough base for the application of finish coats or decoration. The tough base coats help the plaster wall to withstand rough usage which it may receive during the life of the building.

Low Coefficient of Expansion

After being applied, gypsum plaster remains inert and does not expand or contract even when subjected to fire. As it is made of gypsum it is absolutely incombustible.

Packaging

Shipped usually in 100 lb. paper bags; and some specialty products in 250 lb. barrels.



Above:
Gypsum Mine at
Clarence Center, N. Y.



At Right:
Gypsum Quarry at
National City, Mich.

N A T I O N A L G Y P S U M C O M P A N Y

GLOSSARY OF TERMS AND INFORMATION REGARDING PLASTERS AND THEIR USES

In view of the use of numerous local or descriptive names for the same type of plaster and widely varying market prac-

tices, it is felt that the following classification of plasters as to names and uses will be of considerable value:

BASE COAT PLASTERS

Cement Plasters

These plasters constitute the bulk of tonnage of all types of gypsum plasters used. The term relates to all Neat (the term Neat designating a plaster containing no sand or other aggregate added at mill) plasters either with or without hair or sisal fiber. (Wood Fiber Plaster is never classified as a cement plaster.)

Cement plaster is also called by the following names in many markets:

- | | |
|--------------------|-----------------------|
| (a) Hardwall | (d) Compound |
| (b) Patent Plaster | (e) Paristone |
| (c) Neat | (f) Base Coat Plaster |

Fibered and Unfibered Cement Plaster

Hair Fibered Plaster

Hair Fibered Plaster may contain either hair or sisal fiber. Sisal fiber is recommended as being more satisfactory than hair in plaster.

Unfibered Plaster

This designates only cement plaster containing no fiber.

Uses for Cement Plaster

This material is generally used for plaster work where good plaster sand is easily available and it is economically advisable to mix sand on the job rather than use a mill-mixed material. Cement Plaster is formulated for use with sand in amounts covered in directions and *should never be used Neat*—i.e., without addition of sand.

Sanded Plaster

This material is the same as Cement Plaster, except that a properly graded sand has been added at the mill in the proper amount for best plastering results. It has been called by many names listed under Cement Plaster except with the term Sanded used in addition.

Uses for Sanded Plaster

This material is used largely where good plastering sand is not easily available, where absolute exactness of proportioning of amount of sand is required, where facilities for mixing are limited, or job is not large enough to justify trouble of mixing sand on the job. Sanded plaster is used solely with addition of water on the job.

Wood Fiber Plaster

This type of plaster contains a finely shredded wood fiber and is made primarily for use with addition of water only on the job. In some cases, however, a small amount of sand (never over one part by weight) is added on the job. In some markets this material is known as Pulp plaster.

Uses for Wood Fiber Plaster

This material is used to a large extent for patch jobs, for work where an extremely hard wall is wanted, where base plaster is to be trowel finished, where sand is not easily available, etc.

Sanded Wood Fiber Plaster

This type plaster is on same general order as Wood Fiber Plaster except a small amount of specially graded fine sand is added. Its uses are the same as with Wood Fiber Plaster and it is used in certain markets where trade prefers a sanded wood fiber.

Concrete Bonding Plaster

This is a specially formulated wood fiber plaster to provide maximum bond to interior concrete surfaces. Ordinary gypsum or lime plaster does not bond properly to concrete surfaces. Water only is added in mixing on the job.

Bond Plaster

This material is the same as Concrete Bonding Plaster.

FINISH PLASTERS

Gauging Plaster

This is a specially ground calcined gypsum which may be either pure white or grey in color and quick or slow in set. Other names used to designate this material are as follows:

- (a) Plaster of Paris
- (b) Calcine
- (c) Finish Plaster
- (d) White Plaster (For pure white material only)
- (e) Stucco

Uses of Gauging Plaster

This material is always used in connection with lime putty finish and is the essential ingredient which provides an initial set and prevents the slow setting lime from shrinking, checking and peeling before the set of lime itself takes place. The failure to use the proper amount of Gauging Plaster is the cause of most failures on lime putty finish jobs.

The type of Gauging used depends on trade practices in each locality. The following types of material are used:

- (1) White Gauging—Quick Set
- (2) White Gauging—Slow Set
- (3) Grey Gauging—Quick Set
- (4) Grey Gauging—Slow Set

Moulding Plaster

This is made from selected rock and specially prepared for requirements of its use. This is also sometimes called Plaster of Paris. It is used for plaster moulds, ornamental plaster work of all kinds and can be used as substitute for quick set Gauging Plaster. It is generally made as a pure white plaster but in a few localities Grey Moulding is used for special purposes.

Prepared Trowel Finishes

These plasters are gypsum finish plasters manufactured to avoid the problems involved in use of ordinary lime putty finish. They contain no lime but various ingredients are added to produce exceptionally easy working and spreading qualities. Water only is added on the job. They are also known as

- (a) Smooth Trowel Finishes
- (b) Gypsum Trowel Finishes

Uses of Prepared Trowel Finishes

These finishes are available as a substitute for lime putty finish whenever desired. They have replaced lime putty finish in some markets. They have the advantage of perfect bond to base, quick

setting and freedom from danger of lime burn in decoration. These finishes can be safely decorated in any manner as soon as dry.

They are available in both grey and white.

Sand Float Finishes

These are also prepared gypsum finish with addition of fine sand. They are used in markets where the semi-rough surface of a sand float finish is desired. As name implies these materials are "floated," not trowel finished.

They are furnished in both grey and white.

Keene's Cement

This is an exceptionally hard gypsum finish fundamentally different from all other types of gypsum plasters.

It is a slow setting material which can be troweled with no danger of "killing" the surface and can be re-tempered in the box without damage to material.

Keene's Cement manufactured by Best Brothers at Medicine Lodge, Kansas, and sold by Gold Bond, has always been the leader in the field.

Uses of Keene's Cement

It is used wherever hard, extremely dense walls are required such as imitation tile bathrooms and kitchens or any places where walls are subject to unusual abuse. It is used as a finish in place of usual lime putty.

NATIONAL GYPSUM CO. GYPSUM PLASTERS

APPROXIMATE YARD COVERAGE PER TON ON VARIOUS PLASTERING BASES

Type of plaster	Gypsum lath	Gypsum insulating lath	Painted metal lath	Wood lath	Gypsum tile	Brick and clay tile	Concrete surfaces	Bags type weight, lbs.
Neat*	225-240 Sanded 1-2	225-240 Sanded 1-2	105-135 Sanded 1-2	180-210 Sanded 1-2	235-255 Sanded 1-3	165-200 Sanded 1-3	Use Bond Plaster	Paper 100 lbs.
Sanded	75-80	75-80	35-45	60-70	65-70	45-55	Use Bond Plaster	Paper 100 lbs.
Wood Fibered	115-120 Water only no sand	115-120 Water only no sand	56-65 Water only no sand	90-100 Water only no sand			Use Bond Plaster	Paper 100 lbs.
Bond		90 to 120 sq. yds., depending on smoothness of surface of concrete						Paper 100 lbs.
Gauging Plaster		1600 sq. yds. with 2 tons of hydrated lime						Paper 100 lbs.
Prepared Sand Float Finish		250-275 sq. yds.						Paper 100 lbs.
Prepared Trowel Finish		300-400 sq. yds.						Paper 100 lbs.
Keene's Cement		400-500 sq. yds.						Paper 100 lbs.

*Sanded 1-2 equals 1 part of plaster 2 parts sand by weight.

Sanded 1-3 equals 1 part plaster 3 parts sand by weight.

PLASTER PROBLEMS AND THEIR SOLUTION

Gypsum plasters are a highly sensitive chemical product and therefore subject to changes resulting from use under adverse conditions. A knowledge of the effect of these

conditions on gypsum plasters as covered by the following table will insure the satisfactory correction of practically all plaster problems which arise:

SLOW SET: If plaster fails to set in 4 hours with all proper precautions. REMEDIES: (1) Add amount Gold Bond Accelerator (usually handful to the bag is sufficient) necessary to give desired set. Sprinkle accelerator over dry plaster before mixing. or (2) Add handful screened dry set plaster droppings same manner as accelerator. or (3) Add quart hydrated lime or portland cement or 15 lbs. unretarded stucco to each bag of plaster. or (4) Add alum or zinc sulphate in proportions two ounces per gallon water.			
QUICK SET: If plaster sets in box or before it can be darbied. REMEDIES: (1) Check to see if mixing box, tools and sand are clean and clean water used. (2) Use retarder or ground glue in amount needed for desired set.			
SHORT WORKING: If mortar works hard, does not carry sand, drops easily from wall. REMEDIES: (1) See if material is stored in dry place. (2) Add fresh plaster bag to bag. (3) Add 2 shovelfuls slaked lime to each sack. (4) Decrease amount sand and water.			
PLASTER TROUBLES AFTER APPLICATION			
IF PLASTERED WALL IS:	THE TROUBLE IS:	REMEDY:	TO PREVENT TROUBLE IN FUTURE:
Soft, white, chalky particularly over openings. Hot weather condition.	"Dry Out." Plaster dried before setting.	Spray walls with clean water. Keep wet till set.	Screen openings. Wet lath and floors. Avoid thin coats. If plaster slow set use accelerator.
Damp. Soft. Winter condition.	"Sweat Out." Plaster holds water and "rots."	After plaster is set open doors and windows. Supply heat.	Allow ventilation to hasten drying after plaster is set. Supply artificial heat in cold weather.
Soft, resembling sweat out—rooms have been at freezing temperature.	Walls are frozen.	Throw open building. Let walls freeze dry.	Keep walls from freezing until plaster is dry or at least 24 hours.
Soft, not due slow set or hot weather or rettempering plaster.	(1) Too much sand. (2) Too fine sand.	None.	(1) Measure sand accurately. Do not use over 3 parts by weight. (2) Use other sand.
Wood lath. Cracks or bulges horizontal with lath. Straight vertical cracks.	Due swelling poor grade of lath or improperly spaced or failure to wet down. Failure stagger joints.	Remove and replaster.	Use No. 1 lath, white pine, cypress or spruce free from bark, sap, or knots. Space 1/4" to 3/8" apart. Stagger. Wet lath before plastering.
Gypsum lath. Cracks around joints.	Too thin coat.	Apply second coat.	Use proper grounds.
Metal lath. Sags, cracks, does not adhere.	Too light lath, too open spaces, plaster not extra fibered. Plaster over sanded.	Reapply.	Correct conditions mentioned.
Brick or tile. Small cracks.	Failure wet before plastering. Too little sand. One coat work.	Float crack or apply more plaster.	(1) Wet tile before plastering. (2) Use 3 parts sand. (3) Two coat work.
Concrete. Poor bond.	Use of improper plaster. Unprepared surface.	Remove loose plaster. Condition wall. Apply bond plaster.	Surface must be rough, clean. Use concrete bonding coat.

GOLD BOND BASE PLASTERS

With Regard to A. S. T. M. Specifications

National Gypsum Company guarantees any Gold Bond Gypsum Plaster product to have about double the strength requirements and to exceed by a wide margin the purity required for

any special plaster product in the A.S.T.M. Specifications and also every other detail of these specifications. This also applies to Government specifications.

GOLD BOND CEMENT PLASTERS

Neat Plaster for Base Coats—Fibered or Unfibered

Gold Bond Cement Plaster is "neat," not sanded, the sand being added at the job. Each shipment is prepared especially for the locality to which it is shipped and for the sand used in that locality. Fibered with hair or sisal fiber as ordered.

When mixed with sand it spreads well with a uniform working quality and with satisfactory results on the finished wall. On account of the purity of the gypsum it assures the maximum in sand carrying capacity, bulk and workability.

Note: Cement plaster should never be used neat—i. e., without adding sand.

Mixing and Proportions of Sand for Various Bases

After thoroughly mixing with sand, hoe plaster into water and bring to a uniform mix of proper consistency.

Scratch Coat on Gypsum, Wood and Metal Lath

Mix 1 part plaster with 2 parts by weight of dry sand.

On Brick and Gypsum or Clay Tile

Use 1 part plaster to 3 parts by weight of sand.

Brown Coat (Second) for All Plaster Bases

Mix 1 part of plaster to 3 parts of sand.

Application on Various Bases

On Gypsum Lath—Do not wet lath. Apply in 2 coats, scratching well in to fill joints between the lathing units. Brown coat to be darbed lightly and water used sparingly.

On Wood Lath—Soak lath 24 hours before and wet again an hour or two before plastering. Apply in 2 coats using sufficient pressure on scratch coat to obtain good key. Brown coat to be darbed lightly and water used sparingly.

On Metal Lath—Apply in 2 coats. Scratch coat to lightly cover lath and fill mesh. Scratch first coat and allow to set. Then apply brown coat, darby lightly and use water sparingly.

On Brick and Gypsum or Clay Tile—Soak brick or clay tile walls and sprinkle gypsum tile lightly before application of plaster. Apply in 2 coats. Darby brown coat lightly and use water sparingly.

Approximate Covering Capacity and Sanding

Plastering base	Gypsum lath	Wood lath	Metal lath	Brick and clay tile	Gypsum tile
Sq. yds. per ton	225-240 1 plaster 2 sand	180-210 1 plaster 2 sand	105-135 1 plaster 2 sand	165-200 1 plaster 3 of sand	235-255 1 plaster 3 of sand

Full 1/2 in. grounds should be used for best plaster work.

GOLD BOND SANDED PLASTERS

For Base Coats Where Prepared Sanded Plaster Is Desired

Gold Bond Sanded Plaster is the same as cement plaster but is accurately factory mixed and sanded with especially selected and graded sharp sand. It requires only the addition of water and mixing to be ready for use. It is useful for localities where good local sand is difficult to obtain or where accurately mixed material is wanted.

It is also desirable for use during the winter as it eliminates the need for drying sand which is wet and frozen or for trying to secure unfrozen sand.

It is also useful for remodeling and repair work as it may be mixed inside the building.

Mixing—Add nothing but water, hoeing plaster into water and mixing thoroughly. First mix thin, then add dry material to bring to proper consistency.

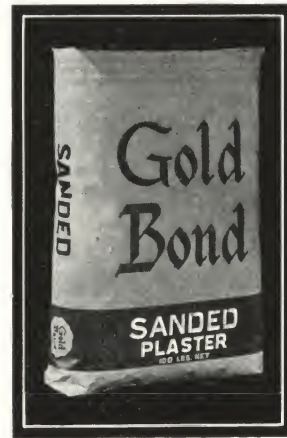
Application on Various Bases—Gold Bond Sanded Plasters are applied to the various plastering bases in the same manner as for Cement Plaster (see description above).

Approximate Covering Capacity

Plastering base	Gypsum lath	Wood lath	Metal lath	Brick and clay tile	Gypsum tile
Sq. yds. per ton	75-80	60-70	35-40	45-55	65-70
No sanding required—add water only					

At Left
Gold Bond Cement
Plaster Bag

At Right
Gold Bond Sanded
Plaster Bag



GOLD BOND WOOD FIBERED PLASTER

Used for Base Coats Except on Brick and Gypsum and Clay Tile

Unsanded or "Neat" Wood Fibered Plaster is a gypsum plaster containing finely shredded wood fiber and requires only the addition of water to be ready for use. It does not require sand but in some localities 1 part, by weight, of sand is added.

The wood fibered plaster when used unsanded avoids dangers of over-sanding and works and spreads freely and easily. The plaster is about two-thirds lighter in weight than sanded plaster. The wood fiber acts as a reinforcing and produces a dense, tough, strong and durable base, especially for troweling. It is superior in fire resisting and sound deadening qualities to sanded plasters and will stand up where strains and vibrations are encountered. It saws like wood. It is especially adapted for winter work and alterations as it is easily handled.

Sanded Wood Fibered Plaster—Same as unsanded but is shipped factory mixed with proper amount finely graded sand.

Mixing for Application on Various Bases

Hoe plaster into water and allow to soak from 10 to 20 minutes, then mix to the proper consistency.

Scratch Coat—Use "Neat" for wood, gypsum lath and metal lath.

Brown Coat—Use "Neat" for wood and gypsum lath and "Sanded" for metal lath.

Note: Do not use either on Brick and Gypsum or Clay Tile.

Application on Various Bases

On Gypsum Lath—Do not wet lath. Apply in coats scratching well to fill joints between the lathing units and scratch surface. Allow first coat to dry then apply brown coat and broom surface before it sets.

On Wood Lath—Soak lath. Apply in coats, applying scratch coat with sufficient pressure to obtain proper key and scratch surface. Apply brown coat and broom surface before it sets.

On Metal Lath—Apply in two coats, applying scratch coat, of stiffer consistency, to cover lath and fill mesh. Apply brown coat and broom surface before it sets.

On Brick and Gypsum or Clay Tile—

Note: Wood Fibered Plaster is not recommended for use on these bases.

Approximate Covering Capacity

Plastering base	Gypsum lath	Wood lath	Metal lath	Brick and clay tile	Gypsum tile
Sq. yds. per ton	115-120 Unsanded add water only	90-100 Unsanded add water only	55-65 Unsanded add water only	Not recommended on these bases	

GOLD BOND CONCRETE BONDING PLASTER

For Base Coats on Interior Concrete Surfaces

This plaster is made especially to bond to concrete surfaces, on which ordinary gypsum or lime plasters will not adhere properly. It is used for scratch and brown coats. Only water should be added on the job. Do not use with sand.

All surfaces of concrete must be dry, absolutely clean, free from oil and efflorescence and should be roughened if the surface is troweled smooth.

The plaster should be applied in two thin coats just thick enough to make a smooth wall and not over $\frac{1}{8}$ in. total thickness. Any plaster finish may be used over the bonding plaster. The finished surface should not be decorated for a year in order to allow time for any moisture in concrete to work out.

Mixing and Application

Mixing—Add nothing but water and hoe plaster into the water, allowing to soak for 10 to 20 minutes, then mix thoroughly to a smooth creamy consistency.

Application—Apply in 2 coats—First coat shall be scratched on as thin as possible, scratched and allowed to dry. Apply second coat just thick enough to level up inequalities with total thickness not over $\frac{1}{8}$ in. for both coats. Scratch the surface of bond plaster thoroughly to provide mechanical key for finish.

Approximate Covering Capacity

Approximately from 90 to 120 sq. yards per ton, depending on roughness of concrete and thickness applied.

Gold Bond
Wood Fibered
Plaster Bag



Gold Bond
Concrete Bonding
Plaster Bag



GOLD BOND FINISHING PLASTERS

With Regard to A. S. T. M. Specifications

National Gypsum Company guarantees any Gold Bond Gypsum Plaster product to have about double the strength requirements and to exceed by a wide margin the purity required for

any special plaster product in the A. S. T. M. Specifications, also every other detail of specifications. This also applies to Government specifications.

GOLD BOND GAUGING PLASTER For Gauging Gold Bond Lime Putty Finish

Gauging plaster is a specially selected, ground, calcined gypsum used with lime putty plasters to quicken the set of the lime putty and prevent checking of lime finish.

It may be either quick or slow set. It is uniformly ground to a fineness to insure easy mixing and working qualities. It is also known as Plaster of Paris.

Types

Slow Set—

Gold Bond Super White Slow Set (White).

Gold Bond Sapphire Slow Set (Gray).

Quick Set—

Gold Bond Super White Quick Set (White).

Gold Bond Sapphire Quick Set (Gray).

Directions for Mixing

Use as directed under Gold Bond Finishing Lime.

Covering Capacity

Under normal conditions one ton of Gauging Plaster to two tons of hydrated lime by weight will cover approximately 1600 sq. yds.

GOLD BOND PREPARED TROWEL AND SAND FLOAT FINISHES For White or Sand Float Gypsum Finishes Over Gypsum Base Coats

These prepared gypsum plasters are for use as finish over gypsum base coats in place of lime putty finish. They make a perfect bond with the gypsum plaster base coats. They have exceptionally easy working and spreading qualities, set quickly and walls may be decorated in any manner as soon as they become dry. There is no danger of lime burns in decorations.

Sand Float Finishes contain clean sharp silica sand which has been screened, graded and dried. This sanded plaster is especially recommended for use in winter when it is difficult to secure the proper sand.

Mixing and Application

Mixing—Hoe plaster into water (adding 2 parts of plaster to 1 part of water by volume) and allow to soak for 10 minutes.

Mix thoroughly to produce a smooth creamy consistency and add water until very thin.

Trowel Finish—Base coat must be hard and at least half dry before finish is applied. If suction is too great sprinkle base with water. Apply in three coats, the first coat very thin, well scratched into the surface. Allow to draw for a few minutes then lay on second coat and level off. Apply third coat very thin, filling in all imperfections and allow to draw for a few minutes. Then trowel to smooth finish, applying water sparingly with brush and complete troweling before plaster sets.

Sand Float Finish—Base coat must be hard and about half dry before finish is applied. Trowel on and finish with a float to true and even surface, using water sparingly from a damp brush and complete before finish sets.

Gold Bond
Gauging
Plaster Bag



Gold Bond
Prepared
Trowel Finish
Plaster Bag



BEST BROS. KEENE'S CEMENT

For Hardest White Finish Coat

This is an exceptionally hard and dense gypsum finish and is fundamentally different from all other gypsum finishes. It is slow setting plaster which can be trowelled without danger of killing the surface. The surface takes a very hard glass-like polish. It is ideally adapted to decorative treatments and does not affect the most delicate color as it is non-staining, non-acid and non-corrosive.

It is used wherever extremely hard and dense finish is required as for installation tile and in wainscotes in schools; auditoriums or any other place where walls are subject to unusual abuse.

This product is manufactured by Best Bros. at Medicine

Lodge, Kansas. It has been specified for years by architects and recognized as a standard in this field.

Mixing and Application

Mixing—For hardest finish use Keene's Cement neat. For Hard finish use 100 lbs. of Keene's Cement and 25 lbs. of lime putty. For Medium Hard use 100 lbs. Keene's Cement and 80 lbs. of lime putty.

Application—Apply same as Gold Bond Prepared Trowel Finish.

GOLD BOND MOULDING PLASTER

Gold Bond Moulding Plaster (Plaster of Paris) is made for use in ornamental plaster work. It is made from selected gypsum rock of greatest purity and whiteness and undergoes special preparations for the purposes for which it is used. The purity of the gypsum deposits of the company allows the production of moulding plaster of the very finest quality. It makes an especially smooth working plaster of uniform set. It is ground finer than other gypsum plasters and permits a finer surface and greater freedom from pin holes.

On account of its hardness and great strength after setting it

is used for plaster moulds and ornamental work of all kinds. The plaster sets with little heat resulting in low expansion and contraction, especially desirable when used in moulds. The low temperature does not affect glue or gelatine moulds. It is used for running mouldings, cornices and ornamental uses of a similar type as it can be worked so smoothly and produces a perfect, smooth surface.

Mixing Directions

Mix with water only and bring to proper consistency for use.

GOLD BOND ACOUSTICAL PLASTER

National Gypsum Company produces two types of acoustical plaster:

1. Gold Bond Standard Macoustic for use where a textured finish is desired.
2. Gold Bond Smooth Finish Macoustic for either a smooth trowelled or floated finish.

Both products are entirely mineral in composition, sanitary and absolutely fireproof. Recommended for all types of new buildings where acoustical treatment is desirable, including Auditoriums, Theatres, Hospitals, Public Buildings, Radio Station, etc. Macoustic Products are described in our Acoustical Plaster section. (See File Index.)

GOLD BOND COLOR TEXTURE

An especially prepared material for use on any type of wall where textured finishes are desired. Made in six ready mixed colors and white. It is waterproof, easy to mix and apply and

the work is completed in one operation as soon as applied. No tinting or glazing is necessary. See catalogue on this, for color samples and complete description in another section.

Best Bros.
Keene's
Cement Bag



Gold Bond
Moulding
Plaster Bag



N A T I O N A L G Y P S U M C O M P A N Y

GOLD BOND FINISH LIME

Gold Bond Lime from Famous Ohio Lime Country

The very finest lime deposit in the world is that in the north-western Ohio dolomite lime fields. This is located a few miles south of Toledo and by far the largest quantity of finish lime produced in the country comes from producers located within an area of a radius of about five miles.

Gold Bond Lime is produced in this area at our plant at Luckey, Ohio, and the purity of the lime ranks with the finest produced in this high quality lime producing section.

The Quality of Dolomite Limestone

The chemically pure dolomite limestone contains 45.5% magnesium carbonate and 54.5% calcium carbonate. A. S. T. M. specifications require a 95% minimum oxides of the two combined. The Gold Bond deposits average between 98% and 99% containing 55.56% Calcium Carbonate and 43.41% Magnesium Carbonate.

It is the magnesium carbonate, when properly burned which gives the plasticity and easy slip or working qualities of a building lime. It is due to the quality of plasticity that the dolomite lime is so favored by the trade. Limes of high calcium content are not as easily worked as the Ohio dolomite lime.

Automatic and Machine Controlled Burning of Lime

One of the important steps in the production of good lime is in the proper burning of the magnesium carbonate. As the calcium and magnesium carbonate require widely different temperature to change them to oxides by burning, it requires very careful regulation of heat. The National Gypsum Company have patented and installed apparatus which definitely controls the burning automatically as against depending on the skill of a fireman in control of his fires, so that overburning is a practical impossibility. Overburning makes the lime tough and hard working without "slip" and will not hold its water against the suction of the wall.

Hydration Scientifically Controlled

The process of hydration is also absolutely and automatically controlled by the equipment of this company. Lime as it comes from the kiln exists as calcium and magnesium oxides. A definite percentage of water is added which combines chemically with the calcium oxide but *not* with the magnesium oxide. The lime is then ground and sacked.

The Reason for Soaking Lime Overnight

The small amount of water used in hydration does not combine with the magnesium oxide. When soaked overnight, the magnesium oxide slowly reacts and forms a "jelly" which produces the slip and easy working qualities of the Ohio dolomite lime. It will therefore be readily seen that the more perfect the hydration of the magnesium the greater the plasticity of the lime.

Plasticity the Test of Quality of Gold Bond Lime

One of the most important tests of lime is that of its plasticity. In the Federal Standard Stock Catalogue, SS-L-351, Section IV, Part 5, E-6, it requires that finishing hydrated lime shall have a plasticity figure of not less than 200. The minimum value which our plant specifications allow to be shipped as finish lime is 300.

Mixing Gold Bond Finish Lime—Fill water tight box about two-thirds full of clean water. The dry lime should then be sifted gradually into the water until fully soaked. Enough excess water to provide 1 to 2 inches of water over the lime should be supplied. Soak overnight. In application, mix 3 parts of lime putty by 1 part of dry gauging plaster by volume. Mix thoroughly.

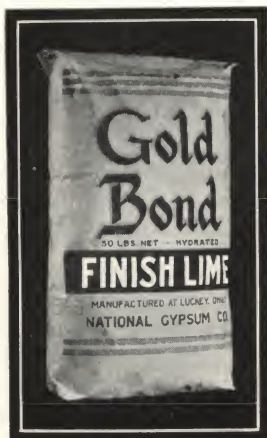
Covering Capacity—Under average conditions, the proportions specified should cover approximately 500 to 700 square yards per ton of lime. Shipped in 50 lb. paper bags.

GOLD BOND MASON'S LIME

This is a hydrated lime for use with lime cement and sand, or lime and sand mortars, or for concrete construction. It is used by mason contractors wherever a good easy working lime,

which will bulk well in putty is required. This lime is manufactured especially for its particular uses.

Gold Bond
Finish Lime
Bag



Gold Bond Finish Lime, produced at Luckey, Ohio, ranks with the finest to be had in this high quality lime producing section.

Gold Bond Mason's Lime, a hydrated lime of high quality, is used by mason contractors wherever a good, easy working lime that bulks well in putty, is demanded.

Gold Bond
Mason's Lime
Bag



MASTER SPECIFICATIONS FOR INTERIOR LATHING AND PLASTERING

GENERAL NOTES

Uses of Master Specifications

It is intended that the following specifications will cover practically all conditions which are usually met with in ordinary construction. Only the paragraphs applying to the particular type of job should be selected and used by the architect. Special lathing bases are not included and if these are used the method of application and use of plaster should follow the recommendations of the manufacturer.

Consulting Service on Lathing and Plastering

The National Gypsum Company has over a hundred and fifty

representatives located throughout its territory who will be glad to consult with architects and lathing and plastering contractors on any lathing or plastering problems which may arise. This is in addition to the technical laboratory and research department located at the Buffalo Office which may be called upon at any time for technical information.

New and Old Work

The following specifications are written only for new work. For alteration work the clauses will have to be altered to cover such work especially in regard to where old and new work join.

SECTION 1

LATHING AND PLASTERING SPECIFICATIONS

Note: (a) **Acoustical Plaster**—Gold Bond Macoustic is not included in this specification. See the National Gypsum Company catalogue and specifications on acoustical treatments and materials.

(b) **Insulating Lath**—Gold Bond Insulating Lath is not included in this specification. See the National Gypsum Company Catalogue and specifications on Insulation.

(c) If trade practice requires separate specifications for lathing and for plastering, the specification should be written accordingly.

1. General Conditions

The General Conditions of the Contract of the American Institute of Architects (current edition) shall form a part of this specification. (If the A.I.A. Standard Form is not used then refer to the one used.)

2. Scope

2-1. This contractor shall furnish all materials, labor, scaffolding and staging which will be required to satisfactorily complete the lathing and plastering work to be executed as hereinafter described or indicated on the contract drawings or schedules.

3. Extent of Work—Furring, Lathing and Plastering

3-1. All Metal Furred or Suspended Ceilings

Note: Wood furring or hung ceilings should be specified under carpentry.

3-2. All metal wall furring and miscellaneous metal furring

3-3. All metal stud partitions

3-4. All lathing

3-5. All interior plastering including Keene's Cement as follows:

Note: Here describe exceptions and amplifications in regard to lathing and plastering or refer to schedule of finishes and drawings.

- a. Note where plaster is to be omitted.
- b. Note where one or two coat plaster is required.
- c. Note where white finish is omitted.
- d. Note ceiling or beams, cornices, etc., to be furred (Type furring)
- e. Note walls to be furred (Type furring)
- f. Note if lath or base and scratch coats back of tile work, marble or slate are to be included or omitted from this contract.

4. Relations with Other Trades

4-1. **Temporary Enclosures**—Temporary cloth enclosures over all window and other exterior openings throughout the portions of the building to be plastered shall be provided and maintained by the carpenter during application and drying of plaster.

4-2. **Temporary Heat, Light and Water**—Shall be supplied by others.

Note: Plastering Contractor or General Contractor may be required to supply salamanders, fuel, heat and maintenance without fire hazard before heating plant is installed, depending on contract agreements. After heating system is installed heat may be supplied by heating system through the General Contractor or Owner.

4-3. **Grounds and Furring**—All necessary wood grounds for furring and lathing shall be installed by others.

4-4. **Inspection of Grounds and Plastering Bases**—All grounds and plastering bases shall be inspected by this contractor from time to time and before commencing his work and he shall report to the Architect and General Contractor any defects in such work which may in his opinion affect satisfactory finish, accuracy and stability of the work under his contract.

4-5. Failure to report such defects requiring correction or replacement before commencing his work shall be construed as acceptance of such work by this contractor and he shall not be relieved of responsibility and obligation under his guaranty.

5. Protection of Work and Building

5-1. All finished work, such as woodwork and glass, shall be adequately protected by Contractor from damage and plaster droppings and he shall make good such damage at his own expense and without cost to the owner.

5-2. Furnish, install and maintain waterproof protection at source of water, under all mixing boxes and gauging barrels.

5-3. Any spill or drip of any kind shall be taken up at once and any sand, sawdust or protection for floor if removed shall be replaced with new material.

5-4. This Contractor shall be responsible for all damage occasioned by the mixing, handling and storing of mortar and materials or through his failure to provide necessary protection.

6. Patching

6-1. All plaster work which is damaged by this Contractor shall be made good by him at his own expense.

6-2. After the erection of finish by other trades, this Contractor shall patch all plaster which is damaged by other mechanics but the cost shall be paid for by the Contractor who caused the damage.

6-3. This Contractor shall cut out, when required, any defect in his work and replaster and leave in perfect condition.

7. Preparation of Surfaces.

7-1. This Contractor shall clean the surface to which or against which plaster is to be applied, removing all mortar droppings, etc., as may be necessary, to allow plaster to adhere to same.

7-2. Concrete surfaces and combination tile and concrete surfaces which are too smooth to receive plaster shall be sufficiently roughened by hacking to secure adequate bond.

Note: (Hacking will be done by others.) Concrete forms should be made of rough boards and be free from oil.

7-3. Concrete surfaces shall be dry and brushed free from dust, soot, grease and oil. (Burn off oil or grease with torch.) Any low places in masonry walls shall be filled out and any unevenness shall be straightened with unfibred plaster ahead of base coat.

7-4. Efflorescence shall be removed with a wire brush and washed with muriatic acid and water, one (1) to five (5) solution. Remove acid by thorough washing with clean water.

7-5. Wood Lath shall be wetted down as specified under Wood Lath, Sec. 5, Par. 1-1-1.

7-6. Gypsum lath and fiber insulating lath shall not be wetted down at any time.

7-7. Where necessary for suction, wet brick, concrete and clay tile surfaces before plastering.

8. Wood Grounds

All wood grounds shall be provided and installed by the Carpenter and shall be of such thickness and so set to provide for 1/2 in. thick plaster over all types of laths and gypsum tile and 5/8 in. thick plaster over all brick, clay tile and other masonry.

Wood Lath 3/4 in. grounds
Gypsum Plaster Board 1/2 in. thick 7/8 in. grounds

Gypsum Plaster Board 1/4 in. thick 3/4 in. grounds
Insulating Board 1/2 in. thick 1 in. grounds
Metal Lath—Expanded, Sheet and Wire 3/4 in. grounds
Gypsum Tile 1/2 in. grounds
Brick and Clay Tile 5/8 in. grounds

Note: Thickness of grounds includes thickness of lath.

9. Sample Finishes

Where special textured finishes are required, this Contractor before proceeding with the work shall prepare and erect, where directed by the Architect, sample panel of each finish required, not less than 3 ft. square. These samples shall be made to the satisfaction of the Architect. After approval by the Architect, the finished work shall equal the samples in all respects.

10. Workmanship

All work shall be executed by skilled workmen in such a manner as to fulfill the requirements of the drawings and specifications.

11. Cleaning

11-1. After completion of his work, this Contractor shall remove from the building all scaffolding and tools of every sort used by him, taking care not to damage work of the other trades.

11-2. All plaster rubbish, plaster droppings, etc., shall be removed by this Contractor and the building left broom clean.

11-3. (This Contractor shall remove all plaster from glass and other finish and leave in first class condition.)

11-4. (The removal of debris and cleaning required, resulting from the work of the Contractor, shall be done by others.)

12. Guarantee

12-1. This Contractor shall furnish a written guarantee as a part of this contract, warranting all work and materials under this contract against defects for a period of (one year) (specifying time) from the completion and acceptance of the work as shown by date of final payment and he binds himself to repair and replace any defect which may develop within that period, without additional payment beyond the amount of the contract, when ordered to do so by the Owner or the Architect.

12-2. (This shall also include the cost or repairs or replacement of any material, decoration or other finish damaged by the defects.)

SECTION 2

FURRING AND SUSPENDED CEILINGS

1. Wood Furring and Suspended Ceilings

Note: Wood furring and suspended ceilings which are to be plastered should be included under Carpentry.

2. Masonry Furring

Masonry furring such as hollow blocks of tile, etc., should be included under Masonry.

3. Materials

3-1. **Metal Furring**—Shall be Gold Bond Cold Rolled Channels. (See page 16.)

3-2. **Metal Partition Studs**—Shall be Gold Bond Cold Rolled Channels of sizes specified.

4. Metal Furred Suspended Ceilings

4-1. **Location**—Ceilings shall be furred or suspended with

metal furring where so indicated on plans or on schedules. Where finished surfaces of plastered ceilings are six (6) in. or more below the soffit of floor construction, they shall be considered as suspended ceilings.

4-2. **Hangers**—Shall be placed not to exceed 4 ft. center to center in either direction. The minimum size for hangers shall be No. 8 galvanized wire, 1 x 3/8 in. flats or 7/8 in. round mild steel rods.

The upper ends of hangers if wire, rods or flats, shall be of sufficient length to wrap around beams or provide a suitable anchorage in concrete or tile. Where steel beams or purlins are not more than 4 ft. center to center, hangers may be attached directly to them. When hangers are hung from concrete beams or arches, the hangers shall be placed before concrete is poured. When ceilings are hung from terra cotta floors, hangers may be installed at tile joints during erection, or may be installed after tile is in place, holes bored clear

through tile and secured on upper side by steel rod or toggle bolt.

4-3. Runner Channels—Shall be placed not to exceed 4 ft. on centers, and shall be not less than 1½ in. cold or hot rolled channels weighing not less than 442 lbs. per thousand lineal feet. Lower end of wire hangers shall be secured to runner channels by three twists around same; lower end of rod hangers shall be secured to runner channels by two twists, or by wiring; lower end of flat steel hangers shall have holes punched at the proper distance to which the runner channels shall be bolted with not less than ¾ in. diameter bolts.

Runner channels shall conform to the contour of the ceiling.

4-4. Furring Channels—Shall be not less than ¾-in. channels with a minimum weight of 276 lbs. per thousand lineal feet; they shall be erected at right angles to the runner channels of No. 16 galvanized annealed wire at each crossing, or by No. 9 wire hairpin clips.

Furring channels shall be spaced as follows:

Not over 12 in. apart for 3.0-lb. flat expanded metal lath is used, or over 16 in. apart for 3.4-lb. flat expanded metal lath; not over 16 in. apart for 3.0-lb. flat rib expanded metal lath; not over 19½ in. apart for 3-lb. ⅜-in. rib expanded metal lath; and not over 24 in. where 3.4-lb. ⅜-in. rib expanded metal lath is used.

4-5. Metal Lath—Shall weigh not less than 3.00 lbs. for ceiling and 2.50 lbs. per sq. yd. for side walls, provided, however, that minimum weight shall be governed by spacing of furring channels as specified in the preceding paragraph.

The metal lath shall be wired to the furring channels (the long dimension of the sheet being across the channels) by No. 18 gauge galvanized annealed wire every 6 in. along the furring channels; there shall be one tie on side laps half way between channels. Lap sheets at sides and ends not less than 1 in.

Where ceilings, cornices or other features, formed with metal lath, finish against masonry walls, partitions or arch soffits, the lath shall extend onto masonry surface at least three (3) in.

4-6. Brackets for cornices, beams, etc., shall be built up of 1-in. steel members spaced same as for runner channels and shall be securely fastened to masonry or other structure supports. Cross fur and lath same as for ceilings.

5. Metal Stud Partitions

5-1. Solid Partitions—

(a) Metal Studs for solid partitions shall be not less than ¾-in. cold or hot rolled channels weighing not less than 276 lbs. per thousand lineal feet, and spacing of studs shall conform with weight of lath as in paragraph (a) of these specifications.

(b) Studs shall be secured in position by inserting ends in holes punched ¾ in. in top of concrete or other masonry floors or in soffits of masonry ceilings, or by attaching to stud shoes, or by placing ends in holes drilled in wood floor bucks anchored to masonry floors at 4-ft. intervals; on floors by wire-tying to nails driven 1 in. into floors and projecting at least 1 in. above. Where metal lath ceilings are used, a small hole shall be made in the ceiling lath and the end of channel allowed to project through it and be wired to a channel attached to the ceiling lath.

(c) Splicing of studs shall be made by lapping channels not

less than 8 in. with flanges interlocked and tied.

(d) Erection of metal lath, for solid lath and metal stud partitions, shall be the same as that given in Par. (1) excepting that metal lath is applied only on one side of channel studs and tied instead of nailed or stapled.

(e) **Note:** Solid partitions over 6 ft. high shall be temporarily braced horizontally on the channel side at intervals not exceeding 6 ft. vertically before applying plaster. Such bracing shall not be removed until scratch coat on the lath side of the partition has set.

(f) In every case one channel shall be set next to wood buck at each side of openings and double-wired securely to 8d nails driven on each side of channel in pairs into buck at 2-ft. intervals. Bottom of door buck shall be securely spiked to wood plug in floor, or attached by metal anchors.

5-2. Hollow Metal Lath Partitions—Use Specifications (5-1) but call for wide single channel, or a double row of ¾-in. channels with separators every 2 ft. vertically, and metal on both faces of partition.

6. Metal Wall Furring

6-1. Where wall furring is indicated on plans or in schedule for walls, beams, girders and other vertical surfaces, it shall consist of ¾-in. vertical channels spaced not more than (specify spacing) (12-in.) on center and shall extend from floor to ceiling arch and be firmly secured top and bottom. Intermediate braces shall be provided as specified for metal stud partitions. Flanges shall face masonry and shall be secured with special hook nails or other device best suited to the masonry or mortar joints.

6-2. Pipe and Ducts—Pipe and ducts required to be enclosed shall be furred as specified for wall furring. Where required to support plumbing fixtures, additional horizontal members of 1½ x ⅝ in. flats shall be wired to vertical members at proper heights to support fixtures.

6-3. Pipe Chases—Over 12 in. wide shall be furred in same manner as wall furring with metal lath extending at least 3 in. each side of opening.

6-4. Heads and Jambs—Fur and lath heads and jambs of windows and doors, when specified or indicated to be plastered, in same manner as for wall furring.

6-5. Corner Beads—Corner beads shall be installed on all exterior angles in plastered rooms or spaces to run from floor to metal corner bead or to spring line of arches where arch heads are used and shall be of type and gauge as specified under materials.

6-6. Metal Grounds—Shall consist of heavily galvanized steel and shall be set true to plane of finished wall surface and shall be securely fastened to the masonry, furring or other support.

6-7. Miscellaneous Furring—(List here other miscellaneous furring required as for stair soffits and any special features requiring metal furring and lathing.)

6-8. No furring shall be placed until all pipes, conduits, etc., have been permanently placed.

6-9. General—All furring and lathing, for all vertical or horizontal surfaces for walls, cornices, beams, arches, carved work, etc., shall be level, plumb true and rigid and accurately formed so that all surfaces to receive plastering shall be generally one (1) inch back of finished surface.

SECTION 3

LATHING AND PLASTERING ACCESSORIES

1. Materials

1-1. Wood Lath—Shall be No. 1 Grade, or better, free from knots, sap and bark, approximately ⅜ in. thick, 1½ in. wide

and either 32 in. or 48 in. long.

1-2. Gypsum Lath—Shall be Gold Bond Gypsum Lath ⅜ in. thick (or ¼ in. or ½ in. thick)—16 x 32 in. or 16 x 48 in. Also 24 x 32 in. and 32 x 36 in.

1-3. Metal Lath—Shall be Gold Bond Metal Lath, National Gypsum Co. (specify type, finish and weight for spacings on both horizontal and vertical installations). See pages 16 and 17 for metal lath.

Recommendations of Associated Metal Lath Manufacturers, Inc., follow:

1-4. Minimum Weight of Metal Lath—

(a) Expanded Metal Lath for Interior Work—

For vertical position, partitions, etc., attached to metal supports 12 and 13½ in. on center, lath shall weigh a minimum of 2.5 and 3.0 lb., respectively, except for solid partitions where 2.2 lath may be used on 12-in. spacing; and 3.4 lath on 16-in. spacing. For nailed-on partitions, maximum spacing shall be 16 in. for all flat laths, minimum weight to be2.5 lbs.

For tied-on ceilings attached to metal supports, maximum spacing shall be 12 and 13½ in. for 3.00 and 3.4 lb. flat lath; for nailed-on ceilings, maximum spacing shall be 16-in. for these laths.

(b) Flat Rib Lath—

For Nailed or Tied-on Partitions and Furring:

For supports spaced not to exceed 16 in. on centers.....2.75 lb.
For supports spaced not to exceed 19 in. on centers.....3.0 lb.

For Nailed or Tied-on Ceilings:

For supports spaced not to exceed 12 in. on centers.....*2.75 lb.
For supports spaced not to exceed 16 in. on centers.....3.0 lb.
For supports spaced not to exceed 19 in. on centers.....3.4 lb.

*For nailed-on ceilings, this lath may be used 16 in. on centers.

(c) 3/8-in. Rib Lath—

For Nailed or Tied-on Partitions and Furring:

For supports spaced not to exceed 19 in. on centers.....2.5 lb.
For supports spaced not to exceed 24 in. on centers.....3.0 lb.
For supports spaced not to exceed 31½ in. on centers.....4.0 lb.

For Nailed or Tied-on Ceilings:

For supports spaced not to exceed 19 in. on centers.....2.75 lb.
For supports spaced not to exceed 24 in. on centers.....3.0 lb.
For supports spaced not to exceed 31½ in. on centers.....3.4 lb.

1-5. Cornerite—Shall be Gold Bond Cornerite.

1-6. Corner Beads—Shall be Gold Bond Corner Bead (specify type).

1-7. Base Screed—Shall be Gold Bond Base Screed (specify type).

1-8. Picture Mould—Shall be Gold Bond Metal Picture Mould (specify type).

1-9. Metal Plaster Arches—Shall be Gold Bond, Metal Plaster Arches (specify type).

2. Application of Wood Lath

2-1. General—Lath with wood lath all (exterior stud walls) (wood furred walls) (stud partition) (ceiling beams or joists) (stair soffits), etc., which are specified to be plastered.

Note: It is recommended that ceiling over furnace and fuel room be lathed with gypsum lath or metal lath for fire protection or at least for a distance of 5 ft. beyond all sides of the furnace. Also stud walls enclosing furnace room.

2-2. All lath shall be spaced not less than ¼ in. nor more than ¾ in. apart, a space of ¼ in. being left between abutting ends and shall be secured at each bearing with 3d lathing nails, using two (2) at each end and one (1) at each other bearing.

2-3. Lath shall be applied at right angles to the supports and joints shall be broken and not more than every seventh lath. No laths shall be carried from room to room. No lathing shall form long vertical joints or be set vertically to fill out at angles or corners.

2-4. Reinforce all re-entrant angles with Gold Bond expanded metal Cornerite and metal corner beads on all exterior angles. All strips shall extend at least 4 in. on each wall and shall butt at ends and not lap and shall be securely nailed or stapled at edges but not in corners.

2-5. Corner Beads—All external corners, both vertical and horizontal, shall be protected with corner beads, of the types

or type specified for their full height or length; same to run from top of base to ceiling, heads or beams or to the spring line of arches.

2-6. Where wood lathing on walls, partitions or ceilings abut masonry work, strips of painted metal lath, extending at least 4 in. on each side of the intersection shall be securely fastened. Lath shall weigh not less than 2.5 lbs. per sq. yd.

2-7. Where heat pipes are concealed in walls or partitions, they shall be lathed over with strips of Gold Bond Gypsum Lath or Gold Bond Painted Expanded Metal Lath nailed securely to nearest supports.

2-8. Openings or where studs are spaced over 16 in. wide, as back of medicine cabinets, etc., shall be lathed with expanded metal ribbed lath.

Note: Add here any other special condition requiring metal lath, such as back of tile wainscot, etc.

2-9. Grounds for use with wood lathing shall be ¾ in. thick, including thickness of lath and shall be installed as specified under Carpentry.

3. Application of Gold Bond Gypsum Lath

General—

3-1. Lath with Gold Bond Gypsum Lath all (exterior stud walls) (wood furred walls) (stud partitions) (ceiling beams or joists) (stair soffits), etc., which are specified to be plastered.

3-2. Nailing edges of lath shall have at least ⅝ in. bearing on all studs, joists, etc., the length of the lath laid at right angles to studs. Horizontal joints shall abut, breaking joints in each course. Vertical joints of wall shall be staggered with ceiling joints so they do not meet. Vertical joints on opposite side of partition shall be staggered and not occur on opposite sides of the same stud.

3-3. Nails shall be 3d 1⅞-in., 13 gauge, ⅜-in. head blued lathing nails, set not more than 6 in. apart into center bearings and 3 in. apart on edges of board and driven home. Center bearings shall be nailed first, then outer edges.

3-4. Fit lath tight together at all re-entrant angles and corners. Fit lath accurately around all electric boxes and similar openings. Cutting shall be done with sharp hatchet or knife and then breaking over a straight edge.

3-5. Where any gypsum lathed wall, partition or ceiling abuts masonry, strips of Gold Bond Reinforcing Mesh or Gold Bond Expanded Metal Lath weighing 2.5 lbs. shall extend at least 6 in. on masonry and 6 in. on gypsum lath, fastening edge to masonry and to gypsum lath.

3-6. All re-entrant angles shall be reinforced over the gypsum lath with Gold Bond Cornerite extending 3 in. each side. Ends shall abut and not overlap.

3-7. All grounds for gypsum lath shall be ⅞ in. thick (including thickness of lath furnished, installed and specified under Carpentry).

4. Application of Gold Bond Insulating Lath

For complete Description and Specifications, see National Gypsum Company's Insulation Catalogue.

5. Application of Gold Bond Metal Lath

5-1. General—Lath with expanded metal lath all studs and beams for (interior stud walls) (wood furred walls) (stud partitions) (ceiling beams) (furred or suspended ceilings) (stair soffits).

5-2. Application to Wood Supports—Metal lath shall be nailed to wood supports and nails shall be not less than 4d or 6d nails or 1¼ in. in No. 14 gauge wire staples driven to a penetration of not less than ⅞ in. and 1 in., respectively, and fastened every six (6) in. along each support. Side joints shall be wired once between supports.

5-3. All rib lath shall be fastened at all ribs to each support and shall be wired at edges once between supports.

5-4. All metal lath shall be fastened to masonry with special hardened steel nails, self-clinching nails or other device best suited to type of construction.

5-5. **Attachment to Metal Supports**—Metal lath shall be wired to metal supports at intervals not exceeding 6 in. with not less than No. 18 gauge galvanized soft annealed wire and shall always be tied where sheets lap at channels and at edges once between channels.

5-6. Metal Lath shall be erected with the long dimension of lath across the supports; rib lath with the ribs against the supports.

5-7. Lath shall be first applied to ceilings and the sheets carried down 6 in. on side walls and partitions. If metal lath is not used on the ceilings, the lath shall start at the top of the wall and be bent and carried 6 in. on to the ceiling joists so that no joints shall occur at intersection of ceiling and walls.

5-8. On walls, lath shall be started on one stud away from the corner, be bent into corner and carried onto the abutting wall so as to avoid a joint at juncture of walls. Where $\frac{3}{8}$ -in. ribbed lath is used on ceilings or walls, it shall be butted into all joints, and strips of lath not less than 8 in. wide shall be bent into the shape of an "L" (Cornerite) 4 in. on each side and shall be securely wired along each edge of the sheet but not in corner.

5-9. Where any wall, partition or ceiling abuts masonry, the metal lath shall extend onto masonry at least 6 in. and be well fastened at edges to joints of the masonry.

5-10. Lath shall be placed so that the lower sheet laps over the upper (not vice versa) and shall be securely attached to supports. Nails or staples shall be so placed that they occur where sides of sheets lap at supports.

5-11. Expanded metal shall be lapped at sides not less than $\frac{1}{2}$ in. and at ends not less than 1 in. End laps shall occur only over supports.

5-12. Ribbed lath shall be lapped at sides by nesting outside ribs, and at ends, 1 in.

All grounds for metal lath shall be $\frac{3}{4}$ in. thick including the lath and will be furnished and installed as specified under Carpentry.

Note: The metal lath specifications have been adapted from those of the Associated Metal Lath Manufacturers, Inc.

Note: No attempt has been made to include specifications for woven wire lath and many other forms of lath. For these, see Manufacturers' Specifications.

6. Metal Arches, Base Screeds, Corner Beads, etc.

6-1. **Metal Plaster Arches**—Gold Bond Metal Plastering Arches of the No. and shape as noted hereinafter or on the drawings, shall be securely set in position over the lath in accordance with the details. Corner beads at jambs shall join arch beads accurately without break.

6-2. **Corner Beads**—All external corners, both vertical and horizontal, shall be protected with corner beads, of the types or type specified for their full height or length; same to run from top of base to ceiling, heads or beams or to the spring line of arches.

Note: If beveled, chamfered or rounded corners are desired, make note where these will occur and change paragraph above.

6-3. **Metal Picture Moulds**—Gold Bond Metal Picture Moulds shall be installed in the following locations. (*List here, or in schedule of finishes, or on drawings, spaces to have picture mould.*)

Picture moulds shall be accurately set, true and parallel with ceiling line and substantially secured.

6-4. **Metal Base Screeds or Wainscot Cap**—Gold Bond Base Screed shall be installed in the following locations. (*List here, or in schedule of finishes, or on drawings, spaces to have base screed for base, wainscot cap, etc.*)

Note: Where special items such as metal bases, with or without electric wire ways; chair rails; door and window trim; etc., are desired, they should be included in the proper trade specification according to local jurisdiction.

SECTION 4

PLASTERING MATERIALS—BASE AND FINISH COATS

1. Materials and Mixing

1-1. **General**—All materials used in plastering shall be stored in a dry place above the ground and shall be handled in such a way as to prevent deterioration or intrusion of foreign matter into the plaster.

1-2. Lime, Gypsum and Cement shall be delivered and stored in original packages of the manufacturer. Any materials in containers showing water marks or which have been damaged or materials that have deteriorated shall be immediately removed from the premises.

1-3. Mixing boxes for base coats shall be clean and tight, approximately $3\frac{1}{2}$ x 7 ft. and 12 in. deep, and $2\frac{1}{2}$ x $4\frac{1}{2}$ x 10 in. deep for finish coats and raised 4 in. at one end. Clean mixing boxes after each gauging.

1-4. Machine mixing shall be permitted in machines made for this purpose if they are cleaned after mixing and kept free of plaster from previous gaugings.

1-5. Tools shall be kept clean and shall not be rinsed in gauging water.

1-6. No more material shall be mixed than can be applied in one (1) hour. Do not mix one gauging with another. Plaster shall not be retempered after it has commenced to set.

Note: Clean water and proper mixing following the direction of the Manufacturer are of extreme importance to good work.

1-7. Plaster shall be kept from freezing for 24 hours after application and no finish coat shall be applied to base which is frozen.

1-8. In hot, dry weather, all openings shall be enclosed with muslin screens or windows kept closed to prevent plaster from drying before it has set; after that, windows shall be opened to permit wall to dry quickly.

1-9. All materials for plastering, except sand, shall be as manufactured by National Gypsum Company, Buffalo, N. Y.

2. Water

Water shall be clean and fit to drink, free from oil, acids, alkali or vegetable matter.

3. Sand

3-1. Sand for base coats shall be sharp, clean and free from saline, alkaline, organic or other impurities. It shall be graded from fine to coarse in conformance with the Standard Specifications for Plastering Sand of the American Society for Testing Materials. Pass through six-mesh screen.

3-2. Sand for finish coats shall all pass a No. 12 screen and shall be white, hard, durable grains free from soluble salts or injurious amounts of organic matter.

4. Plaster

4-1. **Base Coat Plaster**—Shall be Gold Bond Gypsum Plasters.

4-2. **Finish Plaster**—Shall be Gold Bond Hydrated Lime Putty with Gold Bond Gauging Plaster or Gold Bond Gypsum Prepared Plaster (specify which).

4-3. **Keene's Cement**—Shall be Best Bros. Keene's Cement.

SECTION 5

BASE COAT PLASTER—(SCRATCH AND BROWN)

1. Cement Plaster

1-1. **On Wood Lath—Scratch Coat**—Shall consist of one (1) part of fibered plaster to two (2) parts by weight of dry sand.

1-1-1. Soak lath thoroughly 12 to 24 hours before, and again an hour or two before, plastering is started.

1-1-2. Apply in two coats, scratch coat to be applied with sufficient pressure to obtain a good key, filling all spaces between the lath and leaving a light coat over lath. Scratch surface thoroughly to secure bond for brown coat.

1-1-3. **Brown Coat**—Shall consist of one (1) part plaster (fibered or unfibered; specify which) to not more than three (3) parts by weight of dry sand. Second coat shall be applied as soon as scratch coat is set hard and at least $\frac{3}{4}$ dry, to a true and even surface. Surface of the second brown coat shall be darbed and broomed to afford a bond for the finish coat.

1-2. **On Gypsum Lath or Insulation Lath**—Scratch coat shall consist of one (1) part fibered or unfibered plaster to not more than two (2) parts by weight of dry sand.

1-2-1. The Gypsum lath shall not be wetted before applying plaster.

1-2-2. **Scratch Coat**—Apply with sufficient pressure to work plaster well into the joints. Scratch surface to provide bond for the brown coat.

1-2-3. **Brown Coat**—Same as above for wood lath.

1-3. **On Wire or Metal Lath**—

1-3-1. **Scratch Coat**—Shall consist of one (1) part of fibered plaster to not more than two (2) parts, by weight, of dry sand.

1-3-2. First coat shall be applied with sufficient pressure to obtain good key, lightly covering lath. Scratch surface to secure bond for brown coat.

1-3-3. **Brown Coat**—Same as for wood lath.

1-4. **On Brick, Clay Tile or Gypsum Tile**—

1-4-1. Soak brick and clay tile and sprinkle gypsum tile before commencing plastering to reduce suction.

1-4-2. **Scratch Coat**—Shall consist of one (1) part of fibered (or unfibered) plaster to not more than three (3) parts, by weight, of dry sand.

1-4-3. Apply plaster to thickness of grounds ($\frac{5}{8}$ in.) in two (2) coats. Apply first coat in thin layer to obtain bond and double back immediately with second coat, straighten to true surface with darby and broom surface for finish coat.

2. Gypsum Sanded Plaster

2-1. Gypsum Sanded Plaster shall be applied same as above for Cement Plaster without the use of sand but with the addition of water.

2-2. **Special Sanded Plaster**—Shall be used for clay and gypsum tile and brick.

3. Gypsum Wood Fiber Plaster

Note: Wood Fibered Plaster is used invariably for one (1) and two (2) coat work, never three (3) coat work.

3-1. **On Wood Lath**—

3-1-1. Soak lath thoroughly 12 to 24 hours before, and again an hour or two before, plastering is started.

3-1-2. **Scratch Coat**—(Mixed with water.) Apply with sufficient pressure to obtain a good key, filling all spaces between the lath and leaving a light coat over lath. Scratch surface to secure bond for brown coat.

3-1-3. **Brown Coat**—(Mix equal parts of plaster and sand.) Apply to thickness to fill out to grounds and broom surface.

3-2. **Gypsum Lath**—

3-2-1. Gypsum Lath shall not be wetted before applying plaster.

3-2-2. **Scratch Coat**—(Mixed with water, no sand.) Apply with sufficient pressure to work plaster well into joints. Scratch surface to provide bond for brown coat.

3-2-3. **Brown Coat**—(Same as for Wood Lath above.)

3-3. **On Wire or Metal Lath**—

3-3-1. **Scratch Coat**—(Mixed with water.) Apply with sufficient pressure to obtain good key, lightly covering lath; scratch surface to secure bond for brown coat.

3-3-2. **Brown Coat**—(Mixed with equal parts of plaster and sand.) Apply to thickness to fill out grounds and broom surface.

3-4. **On Brick, Clay Tile or Gypsum Tile**—

Note: Do not specify wood fibered plaster for these bases.

4. Concrete Bonding Plaster (for Use on Concrete Surface)

(See notes regarding preparation of surfaces.)

4-1. **Scratch Coat**—(Mixed only with water.) Apply in one (1) or two (2) coats with as great pressure as possible, to thickness of not more than $\frac{3}{8}$ in. and score heavily for bond of finish coat which shall be applied as thin as possible.

4-2. **Gold Bond Wood Fiber Gypsum Plaster**—May also be used (unsanded) for concrete surfaces in place of Concrete Bonding Plaster.

SECTION 6

FINISH COAT PLASTER

1. Smooth White Finish

(Lime Putty and Gauging Plaster.)

1-1. **Hydrated Lime**—Allow to soak twenty-four (24) hours.

1-2. **Finish Coat**—Shall consist of three (3) parts of lime

putty to one part of dry gauging plaster by volume equivalent to two (2) parts of dry, hydrated lime to one (1) part gauging plaster by weight, and shall be thoroughly and uniformly mixed.

1-3. It shall be applied after the base coat is hard, set and about dry. Sprinkle surface of base coat with water before applying finish coat when necessary to kill suction.

Note: Do not apply finish on a base coat containing frost.

1-4. Apply in two (2) coats, first light scratch coat and the second time filling in all imperfections and straighten by means of straight edges.

1-5. Trowel surface to desired finish, keeping wet with brush. Bring same to complete troweling before plaster has set. Surfaces shall be perfectly true and even without scratches, ridges, waves, chips, voids, cracks, etc. All angles must be true, sharp, straight and clean.

2. Prepared Gypsum Finish (Using Gold Bond Trowel Finish Plaster)

2-1. **Finish Coat**—Plaster is ready after thoroughly mixing with water, allowing to soak for ten (10) minutes without hoeing. Make mix very thin and creamy.

2-2. Base coats must be set and hard and about $\frac{3}{4}$ dry. If too dry, cut suction by sprinkling with clean water.

2-3. Apply finish in three coats; first coat applied as thin as possible to handle and scratch thoroughly into base coat. Let draw for a few minutes, then apply second coat, leveling up. Apply third coat as thin as can be handled, filling in cat faces and imperfections. Let draw and then trowel to smooth surface, applying water sparingly with brush, but not enough to kill face of plaster. Avoid joinings by working top and bottom of wall at same time. Finish coat shall not be less than $\frac{1}{8}$ in. or more than $\frac{1}{4}$ in. thick.

3. Sand Float Finish (Using Gold Bond Sand Float Finish)

3-1. Using Prepared Sand Float Finish—add water only.

3-2. Base coats must be set and hard, about $\frac{3}{4}$ dry, before applying finish coat.

3-3. Finish shall be applied with trowel, scratch in thin coat, then double back with second coat to bring to even, level surface free from surface marks. Use float (carpet) (felt) or (cork) to bring to final, even, granular finish. Apply water

sparingly with brush, being sure to complete floating before plaster has set. Avoid joinings by working top and bottom of wall at same time. Finish coat shall not be less than $\frac{1}{8}$ or more than $\frac{1}{4}$ in. thick.

4. Keene's Cement Lime Trowel Finish

4-1. **Finish Coat**—Shall consist of three (3) parts of Keene's Cement to one (1) part of lime putty by volume (or 100 lbs. dry Keene's Cement to 40 lbs. lime putty).

4-2. Base coats must be set and hard but not thoroughly dry before applying finish coat. If base coat is dry, spray slightly with water but do not soak.

4-3. Apply thin coat well scratched in, then double back and fill out to even surface. Allow to draw for a few minutes, then trowel and brush to a smooth finish, using as little water as possible while troweling. Thickness shall not be less than $\frac{1}{8}$ in. or more than $\frac{1}{4}$ in.

4-4. **Imitation Tile**—Marked off for imitation tile, the thickness shall depend on depth of scoring but in no case should be less than $\frac{1}{8}$ in. at bottom of scoring.

4-5. **Polished Surface**—After cement is dry, polish with a cloth to a high polish.

5. Textured Finish (Gold Bond Color Texture)

(For complete information and specifications regarding Gold Bond Color Texture, see our separate catalogue.)

Note: Over Lime Finish—It is not good practice to apply Color Texture or any other decorative material over fresh lime putty finish, sooner than four months after application of the lime putty. If, however, it is desirable that the walls be decorated at once, Gold Bond Color Texture can be applied as soon as the lime putty is thoroughly set and dry. **The lime must not be sized.**

Color Texture may be applied over old lime putty walls with or without sizing. In applying over new or old lime putty, follow Method No. 1 described under "Methods of Application" on second page of our Color Texture catalogue (see File Index).

Over Gypsum Base Coats—Where used over two-coat gypsum plaster, walls should be floated before application of Color Texture to increase yardage and give more uniform job. Dry walls may be sized or dampened to increase yardage and give longer time for texturing.

SECTION 7 ORNAMENTAL PLASTER WORK

1. Cornices and Mouldings

1-1. Cornices and Mouldings of size or girth required should be specified, shown on drawings or noted in schedule of finishes.

2. Ornamental or Enriched Work

2-1. Ornamental or enriched work should also be shown on details, character desired described in specifications and noted on schedule of finishes.

3. Models

3-1. All ornamental work shall be executed from models approved by the Architect.

3-2. Models shall be furnished under a cash allowance of () which shall be included by this Contractor in his contract. Models shall be executed by a modeler (selected by) (satisfactory to) the Architect, and the work shall be executed under the direction of the Architect. Models shall be delivered by the modeler at his studio, ready packed, to this Contractor who shall pay all charges of transportation.

3-3. Models shall be furnished to this Contractor without cost to him by the Owner. Models shall have been prepared under the direction of the Owner.

4. Materials

4-1. Materials shall be Gold Bond Moulding Plaster for run mouldings and ornamental work.

4-1-1. **Mixing**—Add water only to Gold Bond Moulding Plaster.

5. Run Work

5-1. Run Work shall be run full, true and even in accordance with Architect's details. All curved work shall be run true to radius.

5-1-1. **Templates**—Shall be of metal, clean cut and accurate with the Architect's full-size details.

6. Cast Work

6-1. All enriched work and ornamental work which cannot be run in place on the job, shall be of best quality, cast from gelatine moulds. All work shall be properly backed, cast solid or hollow, and properly reinforced with wood or iron, and shall be securely stuck and held in place with copper wire.

6-1-1. Cast ornamental coffered ceilings shall be cast in sections and reinforced so that sections can be secured to hangers or other support from ceiling slabs, etc.

6-1-2. All cast work shall be set true in surface and alignment and any rough spots shall be finished and sand papered and left perfect, ready for decoration.

GOLD BOND GYPSUM WALLBOARD

*Used on 90% of the Century of
Progress Buildings*

*Section 3***GOLD BOND
GYPSUM AND FIBRE
WALLBOARD***Pages 40-43***GOLD BOND GYPSUM WALLBOARD***Pages 44-45***GOLD BOND GRAIN BOARD***Pages 46-47***GOLD BOND TILE BOARD***Pages 47-49***GOLD BOND HARD BOARDS***Page 49***GOLD BOND INSULATION BOARD***Page 50***GOLD BOND FIBRE WALLBOARD***Page 50***GOLD BOND FIREPROOF SHEATHING**

See catalogue on Insulation for
GOLD BOND INSULATION BOARD

GOLD BOND GYPSUM WALLBOARD

The pioneer lightweight gypsum wallboard manufactured under exclusive patents. Fire-proof, non-warping; won't expand or contract; high insulation value. An ideal wall and ceiling material for new and modernizing work

GYPSUM wallboard in its present highly efficient form is relatively a new-comer to the building products field. Prior to 1925, when National Gypsum Company was organized, gypsum boards weighed about 2000 pounds per thousand square feet. They were brittle, breaking easily, and chipping along the nailing edge. Because of their excessive weight and fragility, their use was limited.

Gold Bond Changes Industry

Then in 1925, came Gold Bond with patents covering a revolutionary type of gypsum wallboard. The new product weighed 1700 pounds against the old 2000 pound weight . . . it was much stronger . . . its millions of tiny air cells gave insulation never before dreamed of in gypsum wallboard. Overnight gypsum wallboard became a practical building material, with a hundred-and-one uses in remodeling homes, stores, factories, offices, garages, and all types of building.

New Patents for Lighter Board

Years of pioneering followed, during which time Gold Bond continued to improve the quality of its board. Gold Bond Gypsum Tile Board was introduced, followed by Gold Bond Grain Board, which in texture and grain gives the effect of

wood paneling at a great saving in cost. Both of these products are patented.

Meanwhile Gold Bond engineers were unceasingly at work in an endeavor to further lighten and strengthen gypsum wallboard. They succeeded. And in April, 1934, United States patent numbers 1,932,956 and 1,946,077 were issued covering the manufacture of a gypsum wallboard of extremely light weight plus super-strength.

This new, improved Gold Bond Board is the product we are manufacturing at present and it is the lightest and strongest board we have ever made. The number of tiny, dead air cells in the core has been increased, adding to the insulation value. At the same time, this unique (and patented) cellular structure makes possible nailing close to the edge of the panel without chipping. (It is estimated that the increased ease of handling, and lesser weight, makes a material saving on the actual job.)

Specifications

The National Gypsum Company guarantees its gypsum wallboard products to exceed by 100% the strength requirements of Federal Specifications SS-W-51 A and ASTM specifications C-36 for gypsum wallboard, and to meet all other requirements of these specifications.

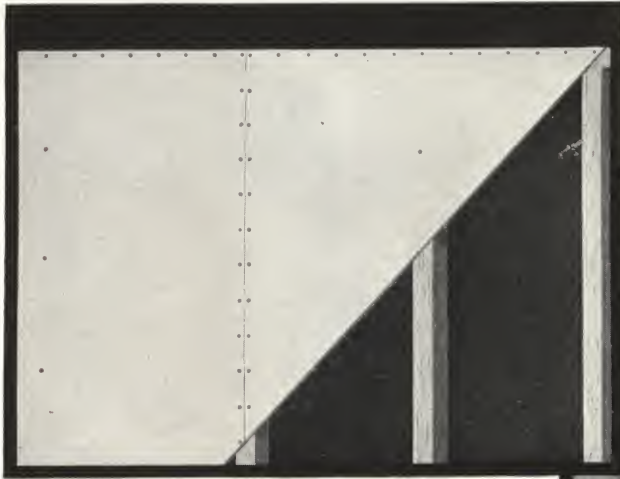


A panel of $\frac{3}{8}$ in. Gold Bond Gypsum Wallboard showing the distinctive edge label

N A T I O N A L G Y P S U M C O M P A N Y

Application

The boards must be nailed at all edges to studs and joists or furring strips. Headers must be provided for nailing the ends of boards. They are first nailed to the center supports and then the outer edges.



Nails at all Edges are spaced 3 inches apart and $\frac{3}{8}$ inch in from Edge of Panel.

Nails are spaced 9 inches apart on Intermediate Wall Studs and 6 inches apart on Intermediate Ceiling Joists.

Fire Resistant

Because it is made of solid gypsum rock, Gold Bond Gypsum Wallboard is highly fire resistant. In repeated blow-torch tests, the material has shown its ability to resist fire. It is both non-inflammable and uncombustible and retards the transmission of heat. Tests have shown Gold Bond Fire Resistance to be unexcelled by any other gypsum wallboard.

Decorative Surface

The tough, smooth manila covering offers an ideal surface for painting, papering, or texture finish after the joints have been properly prepared. It has a highly calendered surface of ivory color, highly sized for the finest decorative effects.

Three Joint Treatments

Gold Bond Gypsum Wallboard may be panelled or the joints filled and treated for painting, papering, or texture finish, eliminating entirely the panelled wallboard effect. Gold Bond offers three methods for finishing the joints.

Treatment No. 1 Gold Bond Joint Filler

For an inexpensive and quick job, Gold Bond Joint Filler may be used for filling the intersections. Supplied in handy 5-lb. packages. The filler is mixed with water to a putty consistency, following the directions on the package. A putty knife is used to fill joints, nail heads, etc. Then it is smoothed off, let dry and sandpapered.

If the wall is to be painted or textured, size all filled joints and nail heads.



Treatment No. 2 Gold Bond Tape Joint System

This is an improved system for finishing intersections and consists of using a woven and processed cloth fabric 2" wide, packed 250' per box with 10 lbs. of special cement.

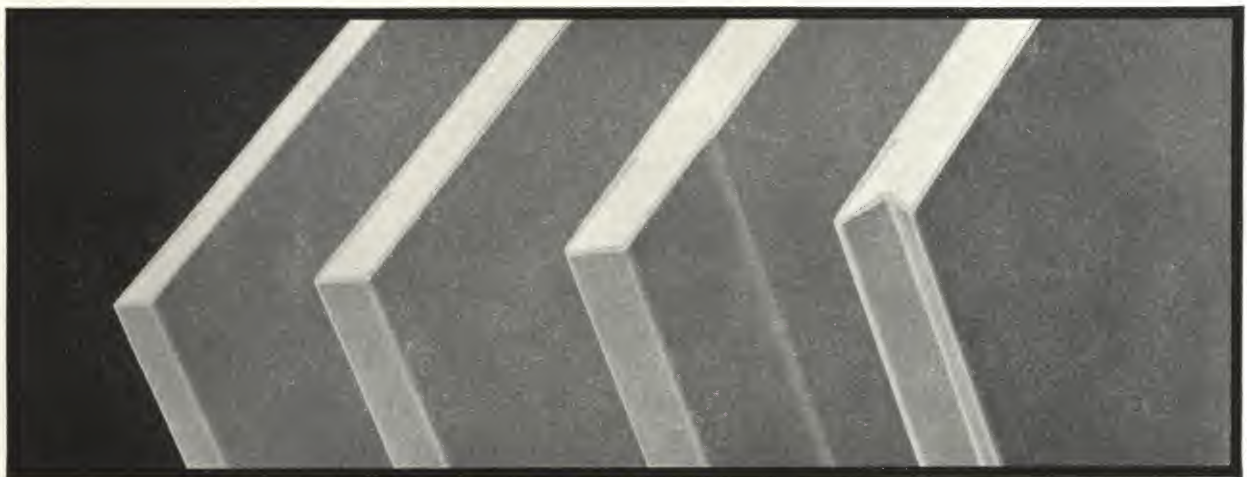
First fill and "butter" the joint with the cement, press the tape into place, and then smooth it off by forcing cement through the tape with putty knife. Then sandpaper and treat as indicated in the Treatment No. 1.

Treatment No. 1—Buttering the Intersections with Gold Bond Joint Filler.

smooth it off by forcing cement through the tape with putty knife. Then sandpaper and treat as indicated in the Treatment No. 1.

Treatment No. 3 Gold Bond Ideal Reinforced Joint System

Recommended for the highest type of job. This system not only hides the intersections effectively, but in addition reinforces the joints as well. For details see next page.



$\frac{1}{4}$ -inch

$\frac{3}{8}$ -inch

$\frac{1}{2}$ -inch with Recessed Edge

$\frac{1}{2}$ -inch with T. & G. Edge

Gold Bond Gypsum Wallboard is Supplied in Three Standard Thicknesses

N A T I O N A L G Y P S U M C O M P A N Y

GOLD BOND IDEAL REINFORCED JOINT SYSTEM

A new and improved method of making the reinforced joint stronger than the board. Each carton contains . . . 250-ft. Roll of 2-in. Balloon Tape . . . 1 lb. Can of Dry Glue . . . Enough Cement to cover tape.

ALTHOUGH there is practically no expansion or contraction in the wallboard, there is always a certain amount of shrinkage and settling in wood framing, capable of causing cracks at the joints of the wallboard. The joints usually are filled with gypsum filler and sometimes reinforced with various materials and tapes.

As the result of many experiments, we now recommend a system of joint treatment which we have found, through actual tests, offers a satisfactory solution of finishing joints.

Extreme Strength of Joint

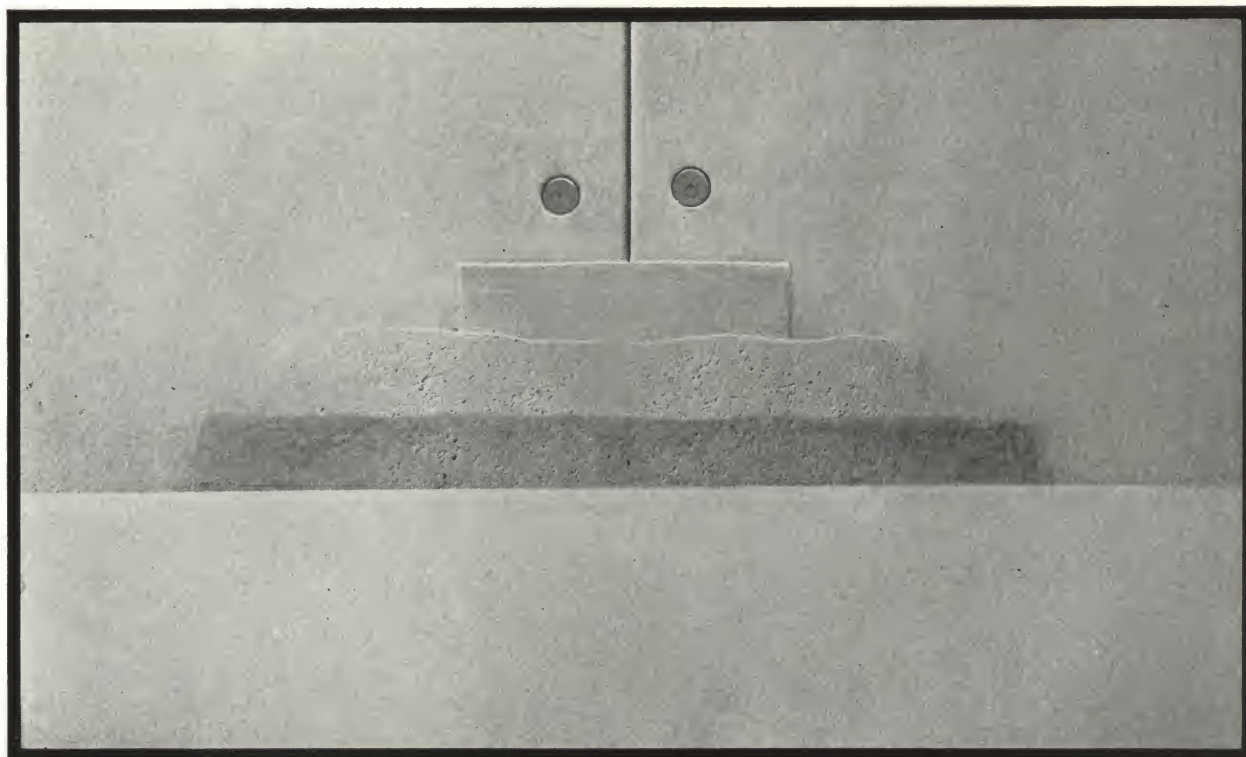
The joint is stronger than the board. This is accomplished by the use of Gold Bond Ideal Joint Reinforcing, a fabric which has a tensile strength of 60 lbs. per sq. in. and is identical with that used on lighter-than-air craft.

In this system, if the edges of the boards are butted close together, it is not necessary to fill the joints. Gold Bond Ideal Joint Reinforcing is then glued over the joint with a special casein glue, and covered with a special cement. The reinforcing although very strong is thin and when the joint is completely finished as directed it is practically imperceptible. Patent application is in process covering this system.

Easily Applied

The illustration below shows how the reinforcing is applied over joints and the steps of finishing the joint, and applying decoration.

On the following page are given complete specifications for the application of Gold Bond Gypsum Wallboard and the finishing of the Gold Bond Ideal Reinforced Joint System.



This Illustration Shows the Progressive Steps of Finishing the Joint Beginning with the Special Tape (Shown in Top Center of Photo), then Covered with a Special Cement, Sandpapered, Sized, and Decorated

STANDARD SPECIFICATIONS FOR APPLICATION OF GOLD BOND GYPSUM WALLBOARD

1. Scope of Work

List all walls, ceilings and other surfaces which are to be covered with Gold Bond Gypsum Wallboard.

2. Framing

2-1. Framing of all studs and joists shall be 16 in. on center, unless for bearing partitions which are 12 in. on center, and shall follow general good practice.

2-2. Headers of 2 x 4 in. shall be provided in ceilings and wherever else required to provide proper nailing for all ends of Gold Bond Wallboard . . . also between studs for baseboards, wainscot, or other finish, and for furring to take wood beams, cornices, etc.

2-3. For old plaster ceilings, nail 1 x 2 in. furring strips over the plaster, to provide proper nailing for ends and intermediate support of boards, using 8d nails.

3. Material

3-1. **Wallboard**—Where wallboard is referred to herein-after, it shall mean Gold Bond Gypsum Wallboard as manufactured by National Gypsum Company, Buffalo, N. Y.

3-2. Gold Bond Wallboard shall be (1/4 in.) (3/8 in.) (1/2 in.) thick in lengths to run full height on walls from floor to ceiling and to size of panels or to headers on ceilings.

Note: (Where 1/2 in. Gold Bond Wallboard with V-Jointed Edge is used for walls, it shall be applied at right angles to direction of studs.)

3-3. Nails for 1/4 in. and 3/8 in. Gold Bond Wallboard shall be 3d, blued nails 1 1/8 in. long for use over studs, joists or beams. For 1/2-in. board use 4d nails 1 3/8 in.

3-4. For directly over old plaster use 6d cement coated common nails 1 7/8 in. long.

3-5. Where ceiling has floor above use 4d cement coated nails, 1 3/8 in. long for ceiling wallboard.

4. Handling and Preparation

4-1. **Receiving Material**—Wallboard shall be piled flat in center of room with Gold Bond label up except first board which shall be turned down.

Note: (Wallboard shall not be delivered on the job until doors and windows are in place.)

4-2. **Handling**—Wallboard shall be handled with long edge up.

4-3. **Sawing and Cutting**—All required cutting of wallboard shall be done with a saw unless joints will be covered by trim. Sawing shall be done with sharp handsaw with back of board placed down and supported close to sawed edge. Other cuts may be made by scoring with sharp edge of hatchet or chisel and breaking over straight edge. Bevel the face side of cut edges and mill cut end with coarse sand paper so that no rough paper edges will remain, unless covered by trim. Recut the ends of all wallboards which have been damaged by handling.

5. Application

5-1. **Inspection**—Before applying wallboard see that all edges and ends are perfect and all ends and cut edges are face beveled and that faces of boards are undamaged.

5-2. Wallboard, with back toward studs, shall be applied directly to studs, beams, etc. Horizontal joints shall be made only over framed headers.

Note: (Board shall be butted together if Gold Bond Reinforced Joint System is to be used or separated 1/8 in. if joints on cut ends are filled.)

5-3. **Nailing**—Wallboards shall be nailed first to intermediate studs or beams and nails driven straight in, with heads set slightly below the surface without using nail set. Nails shall be spaced 9 in. apart on intermediate studs of walls and 6 in. apart on ceilings. Nails shall be spaced 3 in. apart and 3/8 in. back from all edges and ends. Boards shall first be tacked on edge to hold to adjoining edge and then shall be nailed first to each intermediate support working from center toward ends and finally sides and ends shall be nailed, with nails opposite each other on edges.

5-4. **Ceilings**—Ceiling boards shall be erected first and length of board shall be at right angle to ceiling beams. Panels shall be in one piece as far as possible but if joints occur they shall be broken unless covered with strips or wood beams.

5-5. **Walls**—Wallboard shall be applied in full lengths from floor to ceiling, standard board to be parallel to framing, 1/2 in. board at right angle to framing. Edges shall be squared with adjacent wall and ends shall fit snugly against ceiling boards, scribing where necessary. Cut in fillers over door and window openings last. Vertical joints on opposite sides of partitions shall not come opposite each other on the same stud.

FOR APPLICATION OF GOLD BOND IDEAL REINFORCED JOINT SYSTEM

1. **General Note**—Wallboard shall be erected according to standard specifications. Joints shall be butted together.

2. **Preparation of Glue**—Glue shall be Casco Casein Glue as received in original container. Mix glue with three parts of water by weight (1 lb. of glue to 1 1/2 qts. of water) in clean metal container. Allow to stand for 15 to 20 minutes and stir before using.

3. **Preparation of Joint Reinforcing**—Cut Gold Bond Ideal Joint Reinforcing to proper length and immerse in glue. Remove excess glue by pulling tape between two flat pieces of board held together moderately tight. Entire area of reinforcing must be soaked in glue.

4. **Application of Joint Reinforcing**—Reinforcing shall then be applied over joint. Flatten reinforcing against wallboard, on each side of joint, with a cloth which will remove all excess glue and allow to dry.

Note: If Joint between wallboard panels is over 1/8 in. wide due to improper application of board, it is advisable to fill joint level with regular Gold Bond Finisher (not joint cement) and allow to set and dry before application of joint reinforcing.

5. **Finishing the Joint for Rough Textured Finishes**—If a

rough coat of Gold Bond Color Texture is to be applied as finish, size the wall, after glue has dried, with shellac texture to which a little texture has been added. Then apply texture coat.

Note: For rough coats of texture, which are to be color glazed, it is not necessary to size before application of finish.

Note: To avoid brushing through on all textured applications, it is preferable to put on thin wash coat of texture mixed to creamy consistency, which is allowed to dry before final texture coat is applied.

6. **Finishing the Joint for Flat Painted, Papered or Fine-Textured Finishes**—After the glue has dried, the reinforcing shall be covered with a thin coat of Gold Bond joint cement.

The cement shall be mixed with water in a clean metal container to a pasty consistency and allowed to stand for 1/2 hr. before using. The cement shall be applied with a wide (3 in.) knife.

After cement has dried it shall be sandpapered smooth with emery cloth or coarse sandpaper followed by fine sandpaper. Wall should then be sized, and is ready for texture or painting.

GOLD BOND GRAIN BOARD

A new type of interior finish, giving the effect of expensive wood paneling at a fraction of the cost. Obtainable in large, easily-handled, fire-proof panels in Mahogany, Gumwood or Whitewood. Made under exclusive patents.

GOLD Bond Grain Board is a sturdy fire-proof gypsum wallboard with a wood grained surface made in panels 32 in. wide and in lengths of 8, 9 and 10 ft. Its cost is but a fraction of the cost of real wood paneling, and when properly applied defies detection upon casual inspection. Millions of feet of Gold Bond Grain Board, in mahogany, gumwood, and whitewood, have been used in offices, homes, stores, restaurants, special shops . . . in short, wherever an impressive but inexpensive wood paneling job is desired.

No Two Feet of Graining Alike

Not only does Grain Board strongly resemble actual wood, but, as in wood itself, the grain pattern is never repeated. (National Gypsum Company has a standing offer of \$500 for the individual who discovers two exactly similar panels of Grain Board.) In this, Grain Board differs from other products which use a printed photographic grain, which naturally repeats itself over the wall area. The natural wood grain of Grain Board may be brought out by following the simple directions on the opposite page, with wax, shellac or varnish.

Non-Fading

Repeated tests prove that Grain Board is absolutely non-fading, even under severe exposure to the ultra-violet rays of the sun. Standard fade



An Executive Office Paneled in Mahogany Finish Grain Board
Equally suitable to stores, homes, libraries, shops, etc.



Three Home Views Created by Joseph Platt of Delineator Magazine, Showing Varied Treatments Obtainable with Gold Bond Grain Board

N A T I O N A L G Y P S U M C O M P A N Y

tests made on Gold Bond Grain Board with ultra-violet light show an exceptional rating in fade resistance. In actual use, no fading detected in over three years.

Will not Expand, Contract, Warp, or Burn

Unlike wood, which it so closely resembles in appearance, Grain Board is practically unaffected by temperature and weather changes. Its 32-in.-wide panels, when properly erected, will not warp, expand, contract or buckle. The core of the board is solid gypsum with myriad tiny dead air cells, hence it is highly insulating and at the same time offers the same fire-resisting qualities and other advantages of standard gypsum wallboard.

Structural Strength

Grain Board is possessed of the same extra strength as regular Gold Bond Gypsum Wallboard . . . the centers of each are identical, made under the same exclusive patents to assure lightness, easy nailing, and superior strength. Its tough grained surface resists kicks and scuffing, and will not mar readily, but when it is struck with sufficient force to cause a puncture the damage can be quickly repaired at much less than the cost of repairing a similar injury to wood paneling.

DIRECTIONS FOR FINISHING

The rich grain effect of Grain Board is best secured and enhanced by following these few simple directions:

For a Velvety Wax Finish

1. Be sure panel is free from dust. Clean off dust and dirt if present by wiping with a damp cloth.
2. Apply any good emulsified floor wax, such as Dri-Bright or Mystic Gloss, by pouring small quantity of liquid on clean cloth and rubbing with grain of panel. If not available, any high-grade, oil-free, hard wax emulsion is satisfactory. *Avoid use of waxes containing oil.*
3. This will dry to a velvety wax finish in about 10 minutes.
4. If desired, a second coat may be added in the same manner.
5. Polish with soft cloth if desired.

For a Varnish Finish

1. Be sure panel is free from dust by wiping with dampened cloth.
2. Apply one coat of filler which can be made by mixing one part of *white* shellac to one part of alcohol. This should be applied preferably before the panel is erected and in any case applied on each panel individually to avoid any lap marks.
3. Allow to dry.
4. Sandpaper surface lightly with 3/0 grade sandpaper, or steel wool.
5. Apply one or two coats of velvet or flat varnish, taking care that entire panel is done at one time. Avoid brush marks caused by overlapping. Brushing should, of course, follow the length and grain of the panel. *Avoid use of gloss varnishes.*

For a Shellac Finish

1. Be sure panel is dust-free by wiping with dampened cloth.



Here in This Close-up View the Distinctive Appearance of Wood Graining Is Seen Clearly

2. Apply one pound cut shellac with brush following grain of panel.
3. Allow to harden.
4. Add second coat if desired.

Caution: Lacquers should not be used on Grain Board. Nor should varnish be used without a preliminary (or sizing) coat of shellac.

GOLD BOND TILE BOARD

A gypsum tile board in large, easily-applied panels. Made under Gold Bond patents. Saves 90% over ceramic tile.

Producing an Inexpensive Tile Effect

IN ALTERATION, it is often desirable to have the effect of ceramic tile without the cost, trouble of supplying proper base and the trim necessary to complete the job of tile. For this purpose, Gold Bond Tile Board offers an inexpensive and satisfactory solution of the problem.

Gold Bond Tile Board

Gold Bond Tile Board is a gypsum board $\frac{3}{8}$ in. thick, 48 in. wide and 6, 7, 8, 9 and 10 ft. long, made under exactly the same processes and of the same material as Gold Bond Gypsum Wallboard. It has the same incombustible core of gypsum and specially finished, tough, strong fiber surface. The four inch square tile are laid off by slight indentation of the surface of the board, to give the effect of tile joints.

Takes Any Decoration

Gold Bond Tile Board comes unfinished in the natural light cream color of the wallboard. It is painted, enameled or lacquered after erection, and by this means it is possible to obtain the exact color scheme desired for any decorative scheme. It also allows the color scheme to be changed whenever desired, which is a decided advantage these days with modern interior designs and decorative treatments constantly changing.

When properly prepared, the surface is easily cleaned by means of a damp cloth.

Gold Bond Tile Board Advantages

It is readily applied over old work, or for new work by a



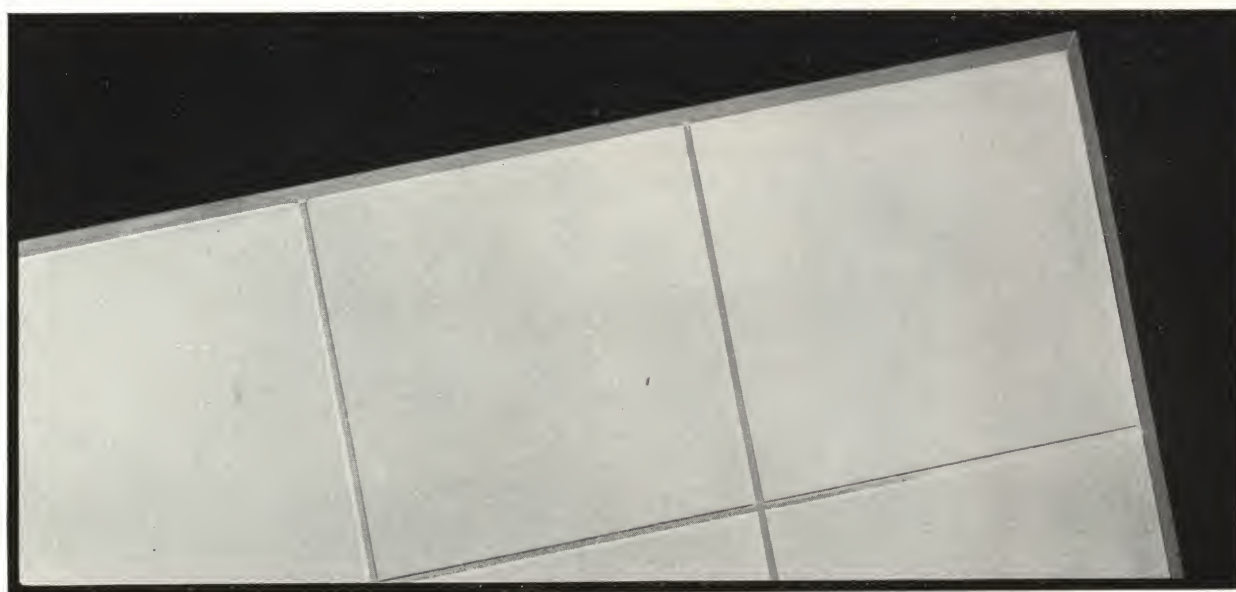
Gold Bond Tile Board is Ideal for Kitchens—Easily Enameled in Attractive Colors—Washable, Sanitary, at Only a Fraction of Ceramic Tile Cost

carpenter at little cost in comparison with faience tile.

1. It does not require a specially prepared base.
2. It is made with a core of incombustible gypsum.
3. It will not expand, contract, warp, buckle or crack.
4. It is applied quickly and with little dirt and muss.

Freedom from Joints

Since the Tile Board is erected in long sheets, from 6 to 10 ft. long, it is free from cracks except where the corners join. The cap and base generally used is wood, and a wood corner mould should be used at internal and external corners.



Section of Gold Bond Tile Board Showing Embossed Tile Effect. Actual Size of Tile is 4 Inches Square

N A T I O N A L G Y P S U M C O M P A N Y

SPECIFICATIONS FOR APPLYING AND FINISHING

For Four-Foot-High Wainscot

1. Gold Bond Tile Board, when delivered at the job, shall be carefully examined to see that the tile surface is in perfect condition, without scratches or blemishes.
2. It shall be applied with the long edges horizontal, and wherever possible the full length of the room. It shall be carefully fitted around window, door or other openings, and then nailed to the studs, using 3d, 1 $\frac{1}{8}$ -in. cement coated nails. Where necessary to nail in areas not covered by mould, drive nails in center of square, slightly countersink and cover with Gold Bond Joint Cement, sanding to a perfect surface.
3. Corners shall be covered with $\frac{3}{4}$ in. quarter round for internal and standard wood cover mould for exterior angles.
4. **Cap and Base:** Cap and base of wood shall be applied as soon as the tileboard is set.
5. **Finishing:** Tile Board shall be given a coat of shellac or size when installed. Enamel or lacquer shall be applied according to the manufacturer's direction.

Contrasting Colored Indentations

Give surface a coat of flat paint or enamel undercoating of the finished color desired for the indentations. Then apply a coat of enamel in some contrasting color, brushed on very thin. When enamel has set, wipe out the joints with any narrow tool

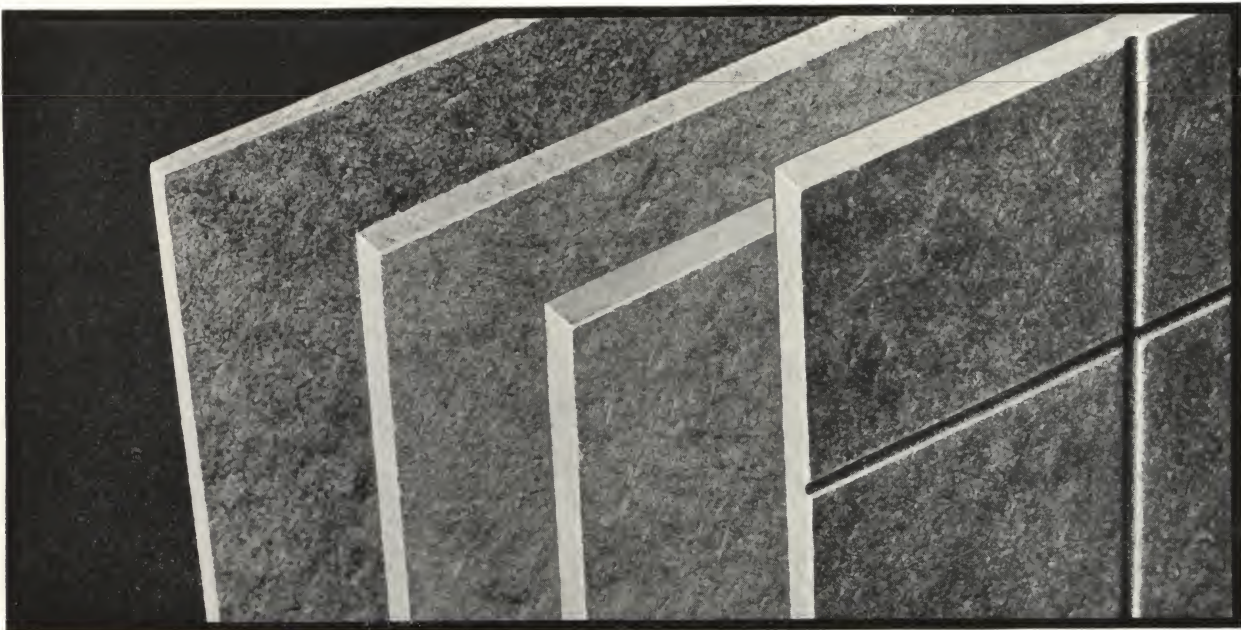


Showing How Easily Gold Bond Tile Is Applied

such as a ruler, match, or ordinary meat skewer. It is advisable to stretch a piece of cloth over the end of the tool to absorb the enamel that is wiped out of the indentations, taking care to keep the cloth clean. This brings out the color of the base coat or undercoating at the indentations and produces an attractive two-color job.

GOLD BOND HARD BOARDS

Grainless All-Wood Wallboards



$\frac{1}{8}$ " Hardboard
Tempered

$\frac{3}{16}$ " Hardboard
Untempered

$\frac{1}{4}$ " De Luxe
Panel Board

$\frac{3}{16}$ " Hardboard
Tile

N A T I O N A L G Y P S U M C O M P A N Y

GOLD BOND HARD BOARD

General Description

It is an all-wood product board made of fibers obtained by exploding wood chips by high steam pressure. Wood possesses a natural, powerful cementing material known as lignin. The exploded fibers and lignin are thoroughly felted together, and when placed in heated hydraulic presses are cemented together by the perfect adhesive present in wood itself. No foreign binder or chemical is used.

Advantages

It will not crack, split or splinter. It is highly resistive to wear and moisture, and shows little contraction and expansion. It is readily sawed and worked with carpenter's tools, and does not damage them.

Uses as Interior Finish

One surface of Gold Bond Board is extremely dense and per-

fectly smooth. The opposite side has a uniform texture. Either is available for use.

Its natural tone is a rich brown and makes a very pleasing wall paneling, in itself. However, it lends itself to any type of decoration. See specifications for instructions.

Sizes and Weights

$\frac{1}{8}$ and $\frac{3}{16}$ in. thicknesses are made in lengths of 6, 8, 9, 10 and 12 ft. and 4 ft. wide. They weigh as follows: $\frac{1}{8}$ in., 760 lbs. . . . $\frac{3}{16}$ in., 1040 lbs.

$\frac{1}{4}$ in. thickness, weighing 1370 lbs. per M, and $\frac{5}{16}$ in. thickness, weighing 1710 lbs. per M sq. ft., come in one size only—4 ft. x 12 ft.

Types

Gold Bond Hard Board is available in both tempered and untempered types. Tempered Hard Board is the same as regular Hard Board, except it is specially treated with a waterproof, densifying material for special uses and weighs 20 to 50 lbs. more per M sq. ft.

GOLD BOND PANEL BOARD

This is similar to the Hard Board but is softer, and is only made in $\frac{1}{4}$ in. thickness and in sizes 4 ft. wide x 6, 8, 9, 10 and 12 ft. long. It is lighter in color as well as in weight, than the Hard Board.

It costs about half as much as the $\frac{1}{4}$ in. thick Hard Board. Supplied in two grades: Standard Panel Board and De Luxe Panel Board. The De Luxe Panel Board has a denser, harder surface.

GOLD BOND HARD BOARD TILE

This is similar to the Gold Bond Tempered Hard Board in every respect except that one surface is divided off into 4 in. squares by means of slight indentations to represent joints of tile.

This is $\frac{1}{8}$ in. and $\frac{3}{16}$ in. thick and is applied in the same manner as the Hard Board except that it is generally applied

with its length horizontal and in full lengths of the wall wherever possible. Made in one size only: 4 ft. x 12 ft.

After it is applied it is enameled or lacquered the color desired, and when carefully done it often is mistaken for ceramic tile but is applied at a fraction of the cost of tile.

SPECIFICATIONS

GOLD BOND HARD BOARD AND GOLD BOND PANEL BOARD

Used as Interior Finish

1. Materials

1-1. The interior of all walls and partitions and ceilings shall be covered with Gold Bond (Hard Board $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$ or $\frac{5}{16}$ in.) (Panel Board $\frac{1}{4}$ in.) as supplied by National Gypsum Company, Buffalo, N. Y.

1-2. Hard Board (Panel Board) shall be in length to run full height to ceiling and to size of panels or to headers on the ceiling.

2. Framing

2-1. All studs, sills and plates shall be framed in usual wood frame construction. All studs shall be spaced accurate 16 in. on center. Use 2 x 4 in. headers cut between studs for nailings where horizontal joints in boards occur and for chair rails, base and similar trim.

2-2. Extra studs shall be used for nailing where necessary to carry out the paneling design desired.

3. Application

3-1. The Gold Bond (Board) shall be applied directly to

the studs, beams, etc., allowing ample bearing for nailing on all edges. Boards shall be applied in single sheets from floor to ceiling on walls and partitions, and in full width panels on the ceiling wherever possible. Horizontal joints shall be brought to moderate contact at top, sides and bottom. Boards must not be forced into place.

4. Nailing

4-1. Boards shall be nailed first to intermediate studs with $1\frac{3}{4}$ in. finishing nails every 6 in. and driven at a 30° angle, then to top edges and lastly the sides. Heads of nails shall be countersunk with nail set. When joints are to be covered with battens, the edges of the boards may be nailed with 4d box nails. If edges are beveled and no battens used, then nail edges with $1\frac{3}{4}$ in. finishing nails spaced 4 in. apart and countersunk.

5. Battens—Trim

5-1. Joints shall be covered with Hard Board battens with outside edges beveled at 45° angle. For corners or ends, bevel one edge only. Do not bevel ends.

5-2. Baseboard, wainscot or other trim shall be of wood as commonly used.

5-3. Battens shall be securely nailed to all framing headers, etc., with 6d finishing nails set at 30° angle.

5-4. **Painting and Decorating:** Gold Bond Hard Boards

may be left in their natural color and finish, but if desired may be painted, enameled or lacquered. Hard Board and Panel Board should be well sized before painting. Use of Hard Board will save one priming coat.

See Painting Specifications.

FOR STAINING, SIZING, PAINTING GOLD BOND HARD BOARD AND GOLD BOND PANEL BOARD

6. Staining

6-1. Any stain (state which) whether acid, oil, benzoil, alcohol or commercial oil or water stains used for dyeing wood, may be used over Gold Bond Boards.

7. Sizing Before Painting

7-1. The surface of all Gold Bond Hard Boards shall be

well sized with standard commercial size before painting, enameling or lacquering.

8. Painting

8-1. After sizing coat shall be thoroughly dry, apply one or two coats of paint, enamel or lacquer.

FOR GOLD BOND HARD BOARD TILE

1. Materials

1-1. The walls of (give location) shall be lined to height of 4 ft. (make note if higher) with Gold Bond Hard Board Tile $\frac{1}{8}$ in. thick as supplied by National Gypsum Company, Buffalo, N. Y.

2. Framing for New Work

(See Specifications Paragraphs 2-1 and 2-2 for Gold Bond Hard Board.)

3. Application (Cementing and Nailing Over Plaster)

Note: When walls are uneven or in bad condition, Gold Bond Hard Board or Panel Board may be nailed or cemented in place. The Hard Board Tile may then be applied. Adhesives used in applying Hard Board Tile should be either a high-grade waterproof linoleum cement, or a special mastic formulated for that purpose. Water emulsion mastics should not be used.

3-1. Remove base-board, plumbing fixtures, brackets, shelving, which will interfere with installation. Walls shall be trued up and all high places sanded down, or if necessary shall be covered with Gold Bond Panel Board.

3-2. Hard Board Tile shall be carefully fitted and butt joints trued up by plane, file or sandpaper. Corner joints shall be beveled, fitted against a corner bead, or into a special metal corner bead.

3-3. After fitting boards carefully, cement shall be applied over the entire back of board and then be placed into position against wall. Hold board in place with a few $1\frac{1}{4}$ in. brads until cement sets. All nailing shall be in scoring . . . remove or countersink nails and putty up holes. Continue

applying boards in the same manner, carefully leveling and truing up.

3-4. **Base, Chair Rail or Cap Moulding:** (These may be of wood, or if metal in zinc or chromium specify which is desired.)

4. Application (Nailing)

4-1. Gold Bond Hard Board Tile shall be applied (over studs when blocked out to face of wall above) (over Gold Bond Hard Board) (over old plaster) to heights as previously noted in Paragraph 1.

4-2. **Over Old Plaster:** Baseboard, plumbing fixtures, brackets, shelves, etc., shall be removed, which will interfere with installation. Walls shall be trued up and all high places sanded down, or if necessary be covered first with Gold Bond Panel Board.

4-3. Nails shall be $1\frac{1}{4}$ in. 18 gauge beads, nailed into the crossing of score lines wherever possible, otherwise nail in horizontal into stud. Nails through the body of board should be spaced 12 in. apart wherever possible. Any necessary vertical joints must be made only at studding, and nailed through each horizontal score line $\frac{1}{4}$ in. in from the edge.

5. Decorating

Note: Hard Board Tile may be decorated by painting, enameling or lacquering. Ordinarily a coat of size and two coats of paint are required. For enamel finish a priming coat, undercoat, and final coat of enamel is general practice. For lacquer finish, a priming coat and either an undercoat or two coats of lacquer are recommended. The treatment depends on the recommendation of the manufacturers of the finish used, and manufacturer's directions should be followed.

GOLD BOND INSULATION BOARD

There are two types of Gold Bond Insulation Board:

No. 1—Gold Bond Aluminum Foil Board which presents the newest and most effective principle—reflective insulation—in combination with rigid fireproof panels of Gold Bond Gypsum Wallboard.

No. 2—Gold Bond Fibre Insulation Board made full $\frac{1}{2}$ -in. thick of the tough fibres of the licorice root plant.

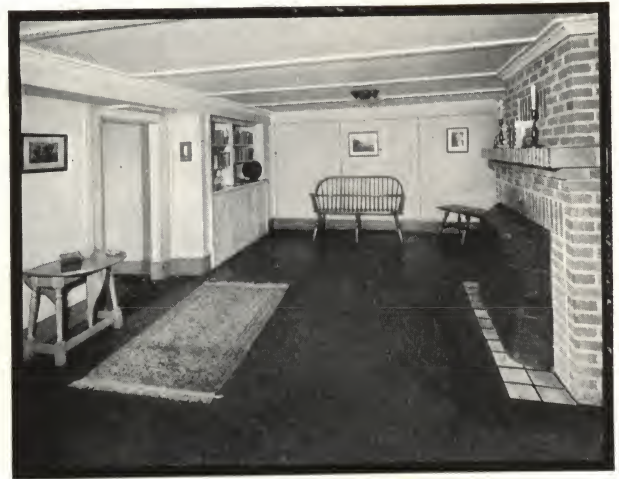
A complete description of both types of insulation board is given in the section on Insulation Products.

GOLD BOND FIBRE WALLBOARD



Gold Bond Fibre Board Used in Attic Room

The low cost and easy application of this material makes it ideal for such uses.



Used to Finish Off Game Room in Basement

A Light Fibre Board with Many Uses

Gold Bond Fibre Wallboard is a light, strong wallboard which serves many useful purposes such as insulation against heat, cold and sound . . . for partitions . . . interior finish of temporary building . . . and for many uses in offices, homes, factories, etc. It is one of the oldest wallboards manufactured, and is known nationally and abroad.

The Reinforcing Core

Although an inexpensive board, it has extra quality of strength and stiffness due to the special manufacturing process. It consists of three layers besides the finish paper on each side. The center core consists of a felted layer of licorice root and other fibres, which when processed are strong, tough and waterproof. This core is enclosed with two layers of wood pulp fibre and the two finished tough paper surfacings.

For Decorative Finish Surface

Both sides of the Fibre Board are finished alike, in a light cream color. This surface is sized to seal the surface and make it resistant to moisture. This may be tested by placing a drop of ink on the surface. The ink will not spread, but remain in the one position until it evaporates. Sizing of the surface also reduces the suction of paint when it is desired to paint the surface.

Ease of Handling and Sizes

The board has no grain and will not chip, crack or sag. It is sawed with a hand saw and is readily fitted to unusual shapes. It is light and easily handled.

It is made in one thickness $\frac{3}{16}$ in. and in lengths of 6, 7, 8, 9, 10, 12, 14 and 16 ft. by 48 in. wide. The boards are packed ten to a bundle. It weighs approximately 550 lbs. per 1000 sq. ft.

GOLD BOND FIREPROOF SHEATHING

A V-Joint Lap Gypsum Sheathing

Gold Bond Fireproof Sheathing is a gypsum board made under the same manufacturing specification as Gold Bond Gypsum Wallboard. The principal differences are in the width, thickness and the type of edge on the long side. The Sheathing is $\frac{1}{2}$ in. thick and the long sides are made for a V-Joint lap, 24 in. wide.

Uses for a Fireproof Sheathing

Gold Bond Fireproof Sheathing is made to be used in place of standard wood sheathing, where ideal sheathing is wanted. It is used under clapboard siding, stucco, brick veneer, and with furring strips under shingle construction.

General Advantages

One of the principal advantages is that it is incombustible as

it is made with a gypsum core. It has greater strength than wood sheathing, as its greater width acts with greater bracing effectiveness.

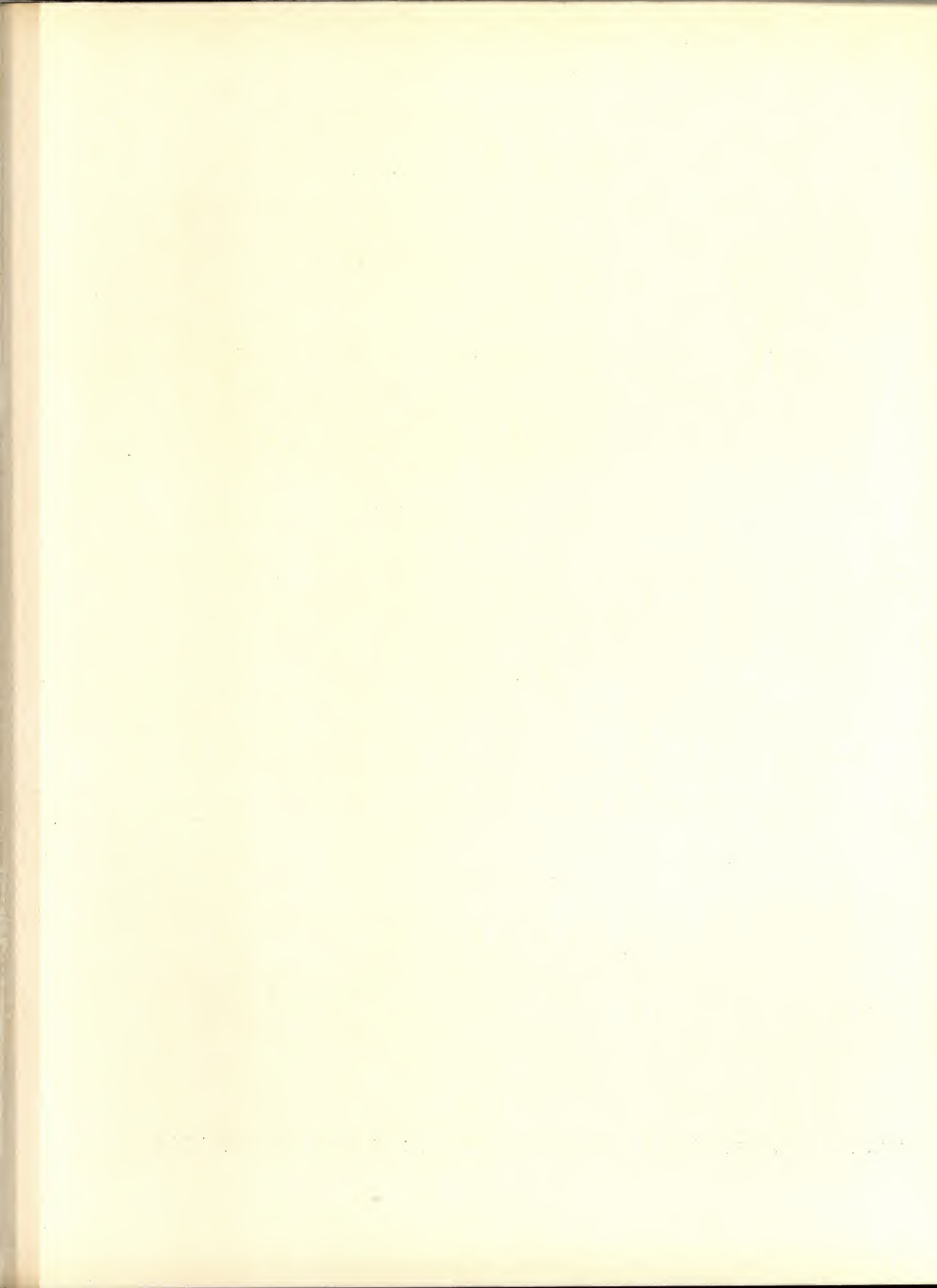
On account of the tight horizontal joint and the ends being nailed to studs, it makes practically a one-piece wind-tight and moisture-proof wall, effectively eliminating any infiltration.

The gypsum being an inert material, the board does not expand or contract, warp or buckle or twist. It does not deteriorate with age.

It is sawed and nailed like wood sheathing, and applied with the length at right angles to the stud.

Sizes and Weights

The sheathing is $\frac{1}{2}$ in. thick, 24 in. wide and 8 ft. long, to work out properly with studs on 16 in. centers.



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THE
Gold Bond
HANDBOOK

**ON RELATED PRODUCTS
FOR WALLS & CEILINGS**

NATIONAL GYPSUM CO.—GENERAL OFFICES, BUFFALO, NEW YORK